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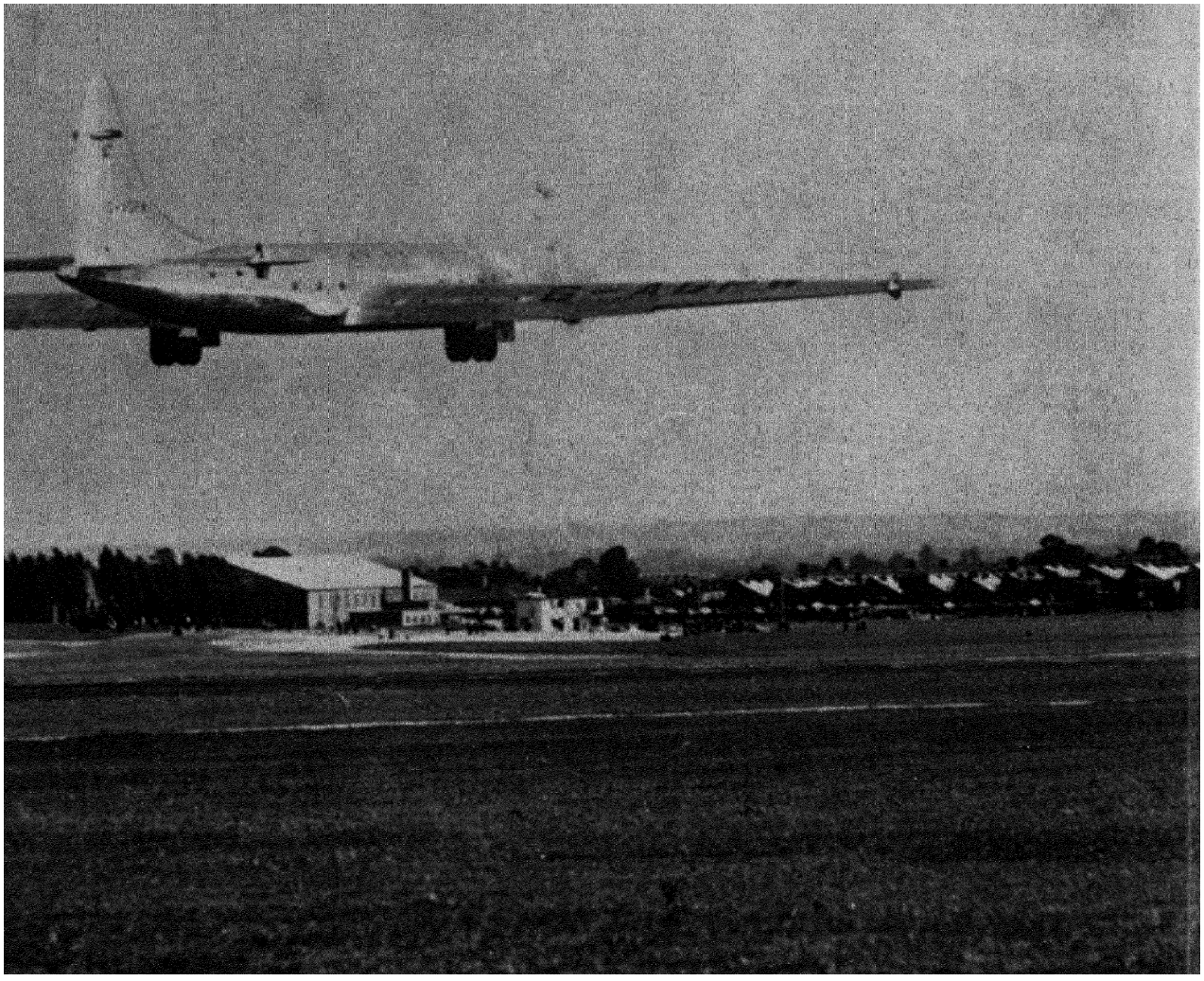
BOOK OF THE YEAR
1950



BRITANNICA
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1950

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PREFACE

WITH this volume of the *Britannica Book of the Year* the story of the '40s is brought to its close. For the second decade in the lifetimes of many men and women the world. and Europe more than the other continents, is climbing back to peacetime economy after a holocaust. In this one respect the record for 1949 is almost an encouraging one. Many articles in the *Book of the Year* speak of industrial and business effort made and rewarded: indeed, if more and more production were the complete answer to 20th century difficulties man, in spite of some shortage of food, would have little to fear. But other articles in the *Book of the Year* tell of the less successful struggle to promote peace. Ideologically the world is divided into factions, clear cut as never before, and as yet there is no sign that the two sides are approaching a new and lasting understanding. Fortunately it is not the job of the *Book of the Year* to prophesy. Its only endeavour is to record happenings and, as faithfully as possible, the statements of those whose opinions and actions shape contemporary history.

The *Britannica Book of the Year 1950* contains a number of new entries. Included among them are COUNCIL OF EUROPE, NORTH ATLANTIC TREATY and MACEDONIAN PROBLEM. This year attention is especially drawn to these, as it is to the presentation of the long statistical sections at the close of the articles on France, Germany, Great Britain, the United States and the U.S.S.R. All national articles end with statistical summaries but these, for their outstanding importance, are exceptionally full.

To the other new titles it is impossible to draw particular attention, unless exception is made for the charmingly written entry on COUNTRY LIFE. But all the 752 titles have the same purpose, accurately to report and interestingly to describe the events of 1949: it is the earnest hope of their 492 British, American and European authors that they in fact do so.

JOHN ARMITAGE
London Editor.

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J.M.We. **Words and Meanings, New** (*in part*)
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N.Mgh. **British Empire** (*in part*)
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P.B.F. **Shipping, Merchant Marine** (*in part*)
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P.Br. **Billiards and Snooker** (*in part*)
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P.Eg. **Budget, National** (*in part*); **etc.**
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P.E.M. **Council of Foreign Ministers**
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R.A.Bn. **Advertising** (*in part*)
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R.B.B. **Leather** (*in part*)
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R.Cch. **English Literature** (*in part*)
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R.C.-W. **Philosophy**
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R.D.B. **Rowing** (*in part*)
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R.d'E. **Brazil**
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R.E.Bs. **Literary Prizes** (*in part*
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R.E.E.H. **Baptist Church**
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R.F.Am. **British Council**
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R.G.D.A. **Prices** (*in part*)
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R.G.L. **Inventors, Awards to**
RHYS, GERRAN LLOYD, M.A., B.Sc., Barrister-at-Law. Practising Barrister (Patent Bar); Secretary of Royal Commission on Awards to Inventors, Great Britain.

R.H.Frg. **Arthritis**
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R.H.Ri. **Grain Crops** (*in part*); **Wheat** (*in part*)
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R.Kn. **Ireland, Republic of; etc.**
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R.L.Hs. **Hockey**
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Rln. **Boy Scouts** (*in part*)
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R.M.Ge. **Soil Conservation** (*in part*)
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R.S.T. **Munitions of War** (*in part*)
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R.Tu. **Political Parties, U.S.**
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R.U.C. **Skiing** (*in part*)
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R.V.B.B. **Navies of the World**
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R.W.B. **New Zealand Literature; etc.**
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R.W.Cr. **Broadcasting** (*in part*)
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R.W.J.K. **Young Men's Christian Association** (*in part*)
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R.Wr. **Young Women's Christian Association** (*in part*)
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S.A.L. **Prisons** (*in part*)
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S.F.M. **Museums** (*in part*)
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S.Hr. **European Recovery Programme; etc.**
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S.L.Bn. **Country Life**
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S.L.L. **Furs** (*in part*)
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S.L.Le. **Wool** (*in part*)
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S.L.S. **Clothing Industry** (*in part*)
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S.P.J. **Air Forces of the World** (*in part*); **etc.**
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X.
ANONYMOUS

DIARY OF EVENTS, 1949

JANUARY

1: **Great Britain.** The British Nationality act, 1948, came into operation.

Austria. The British occupation authorities handed over control of the frontier with Italy to the Austrians.

Kashmir. A cease-fire, ordered by the governments of India and Pakistan, came into effect at midnight Dec. 31-Jan. 1.

2: **Indonesia.** General Spoor, commander of the Netherlands forces, declared that action in Java had ended on Dec. 31.

4: **South Africa.** Dr. Mears, secretary for native affairs, announced that the government intended to abolish the Natives' Representative council.

O.E.E.C. The interim report of the Organization for European Economic Co-operation was published in Paris.

5: **Germany.** Otto Grotewohl, joint chairman of the Socialist Unity party, announced that the Communist party of Western Germany had decided to separate from the Socialist Unity party.

Indonesia. General Spoor ordered a cease-fire in Sumatra.

United States. President Truman, speaking to congress called for action to combat inflation.

Cricket. The third test match between England and South Africa at Capetown ended in a draw.

6: **Great Britain.** The prime ministers of the United Kingdom and Northern Ireland met in London. It was re-affirmed that "no change shall be made in the status of Northern Ireland without Northern Ireland's free agreement."

India. The plebiscite arrangements for Kashmir, proposed by the United Nations, were accepted by the Indian and Pakistani governments and published in Kashmir.

Iraq. The government resigned. Nuri Pasha as-Said, president of the Senate, formed a new cabinet.

Scandinavia. It was announced that ministers of Sweden, Norway and Denmark had met at Karlstad, where defence matters were discussed.

7: **United States.** President Truman announced that he had accepted the resignation of George Marshall, secretary of state, because of ill-health, and that Dean Acheson would succeed him.

8: **Great Britain.** It was announced in London that five R.A.F. planes had been shot down near the Egyptian-Palestinian border. The government protested to Israel.

China. The foreign minister requested Britain, France, the United States and the Soviet Union to mediate in the civil war.

Transjordan. Requested under the terms of the Anglo-Transjordanian treaty, British troops were sent to Aqaba, as a defence precaution.

9: **Israel.** Moshe Shertok refused to accept the British protest as it was addressed to "the Jewish authorities in Tel Aviv" and not to the provisional government. The provisional government protested to Britain at the landing of troops at Aqaba.

10: **China.** General Chen Cheng, governor of Formosa, declared that the island would be used as a stronghold against Communism.

Egypt. The Wafd party announced that it was prepared to enter a national coalition government under a neutral prime minister.

Israel. The cabinet decided to charge Britain before the Security council with contravening the resolution forbidding the introduction of fighting personnel into Israel and the Arab states.

11: **Argentina.** The draft of a new constitution was published. It contained a provision by which the president or vice-president could serve two consecutive terms of office.

Italy. A two-hour strike was held by 50,000 workers in the Milan area to call attention to industrial difficulties in northern Italy.

12: **France.** The Council of Ministers agreed on the immediate reduction in the prices of certain basic commodities.

13: **Pakistan-India.** A conference between the two dominions at Karachi ended with agreement on several matters concerning evacuee property.

United Nations. Dr. Bunche, acting mediator for Palestine, held separate meetings in Rhodes with the Israeli and Egyptian delegations for peace talks

14: **Great Britain.** At the conclusion of discussions in London between Ernest Bevin and Robert Schuman it was announced that views had been exchanged on current international problems.

China. Mao Tse-tung broadcast the terms on which he would insist for peace with the Nationalists.

Poland-Great Britain. A five-year trade and finance agreement was signed in Warsaw, providing for an exchange of goods worth £130 million.

Rumania. A law was passed introducing the death penalty for offences against the state

South Africa. Serious riots broke out between Indians and Africans in Durban.

Turkey. The government led by Hasan Saka resigned

Western Union. The defence ministers of the five member countries met in Brussels.

15: **China.** The Communist armies captured Tientsin.

Greece. T. Sophoulis, prime minister, resigned after attempts to broaden the coalition government had failed.

Turkey. Şemsettin Gunultay was asked to form a government.

16: **Greece.** King Paul summoned the leaders of the ten political parties and told them that if they failed to form a government within 24 hours he would find another solution. The leaders asked the King to choose a prime minister.

Israel-Lebanon. Representatives met near the frontier for preliminary armistice negotiations.

South Africa. Racial riots ended in Durban.

17: **Germany: Western Zones.** The three military governors announced the setting up of a Military Security board.

International Court of Justice. The court resumed hearings on Britain's claim against Albania.

18: **Great Britain.** Sir Basil Brooke, prime minister of Northern Ireland, was received in London by Mr. Attlee.

The government recognized the republic of Korea.

Antarctic. It was announced that the British, Argentine and Chilean governments had decided not to send warships south of latitude 60° during the 1948-49 antarctic season.

Austria. The government announced that Hungary had denounced the Austro-Hungarian agreement of 1926 on local frontier traffic.

Greece. King Paul asked M. Sophoulis to form a government.

19: **Great Britain.** The government declined the Chinese government's invitation to assist in mediation in China.

Greece. M. Sophoulis formed a government of 10 Liberals, 12 Populists and 6 other members.

W.F.T.U. The British, Dutch and United States delegates withdrew from the federation during a meeting in Paris.

20: **India.** A conference on Indonesia summoned by Pandit Nehru, opened in Delhi. 19 countries were represented.

United States. Harry S. Truman was inaugurated as president. In his inaugural speech he re-affirmed his nation's belief in the rights of man and its determination to work for peace.

21: **China.** General Chiang Kai-shek retired from the presidency and General Li Tsung-jen became acting president.

France. The government published details of the issue of a 5% loan to raise 100,000 million francs for reconstruction.

United Nations. The U.S.A., China, Norway and Cuba submitted a resolution to the Security council to settle the Indonesian problem.

22: **China.** Peking surrendered to the Communists.

Rumania. A government decree abolished the police and replaced it by a militia.

23: **India.** The conference in Delhi on Indonesia ended, having adopted three resolutions, the first of which was forwarded to the Security council.

Japan. Elections were held for the House of Representatives. The Democratic-Liberal party obtained 264 seats out of a total of 466.

24: **France.** The government granted *de facto* recognition to Israel.

Scandinavia. Ministers of Sweden, Denmark and Norway concluded a three-day meeting in Copenhagen, on economic and defence matters.

25: **Great Britain.** The report of the Lynskey tribunal was issued.

Eastern Europe. The formation of a Council for Mutual Economic Assistance between the U.S.S.R., Bulgaria, Czechoslovakia, Hungary, Poland and Rumania was announced

Israel. The first parliamentary elections were held. Mapai (Labour party) emerged as the largest party with 46 seats out of 120.

26: **Great Britain.** Mr. Bevin defended his Palestine policy in the House of Commons. The House supported him by 283 votes to 193.

Australia. The Nationality Citizenship act came into operation.

China. The government announced that its offices would be moved from Nanking to Canton by Feb. 5.

Rumania-Poland. A treaty of military assistance and friendship was signed in Bucharest.

United States. An international wheat conference opened in Washington. Fifty-five countries were represented.

27: **Argentina.** Miguel Miranda, chairman of the National Economic council, resigned and was succeeded by Ramón Cereijo.

Eire. The leaders of the main political parties met in Dublin to consider means of assisting anti-partition candidates in the Northern Ireland general election.

Greece. Terms were published in Belgrade under which the "free government" would be prepared to co-operate with the government in Athens.

Turkey. Athinagoras I was enthroned as Oecumenical Patriarch.

Western Union. The foreign ministers of the Brussels treaty powers met in London.

28: **Czechoslovakia.** General H. Pika, former deputy chief of the general staff, was sentenced to death for espionage.

United Nations. Dr. van Royen (Netherlands) opposed the four-power resolution on Indonesia before the Security council. It was subsequently adopted.

29: **Israel.** *De facto* recognition was granted by Great Britain, Belgium, the Netherlands, Luxembourg, Norway and New Zealand. Israel had now been recognized by 33 states.

Norway. A note was received from the Soviet Union requesting information on Norway's attitude to the North Atlantic treaty.

United Nations. The commission for Indonesia held its first meeting in Batavia.

30: **Germany: Western Zones.** The Centre party rejected a proposal from the Christian Democrat party that the two parties should amalgamate.

Paraguay. President Juan Natalicio González was deposed in a revolution led by Dr. Felipe Molas López. General Raimundo Rólon was elected provisional president.

Scandinavia. Talks in Oslo on a common defence pact failed to reach agreement.

Soviet Union. Marshal Stalin's replies to questions put by a U.S. press agency were published. Stalin stated he had no objection to a meeting with President Truman to consider a "pact of peace."

United Nations. Invitations were sent to Iraq, the Lebanon, Saudi Arabia, Syria, Transjordan and the Yemen to attend the Rhodes peace talks.

31: **United States.** *De jure* recognition was granted to Israel and to Transjordan.

Uruguay. Ownership of British railways was transferred to the government.

FEBRUARY

1: **Burma.** Thakin Nu stated that the government was prepared to grant a separate state to the Karens but would not permit its secession.

Germany: British Zone. Max Reimann, the Communist leader, was sentenced to three months' imprisonment for making a subversive speech.

Hungary. An Independence front was formed, consisting of the Workers', Smallholders' and National Peasant parties and other organizations. M. Rákosi was elected president.

2. **Pakistan.** The East Bengal government closed the Pakistan-Burma frontier to prevent Communist infiltration among refugees from Arakan.

3: **Canada.** Louis St. Laurent said in a broadcast that the British North America act should be amended to allow changes in it to be made without reference to the Imperial parliament.

Council of Europe. The permanent commission of Western Union in London began drafting the constitution.

4: **Eire.** The government decided to nationalize the public transport system.

Germany: Western Zones. The British and United States military governors announced further intensification of the counter-blockade of the Soviet zone.

Greece. It was announced that General Markos, leader of the Greek Communists, had been relieved of his post.

Iran. The Shah was shot at and slightly injured.

5: **Cyprus.** The resignation of Lord Winster, governor of Cyprus from 1947, was announced.

E.C.A. The administration withdrew charges that Britain, Belgium and the Netherlands had resold E.R.P. shipments of aluminium and lead to the United States at a profit.

Germany. E. Reuter, lord mayor of Berlin, arrived in London for conversations with British ministers.

Iran. The government dissolved the Tudeh party.

Soviet Union. The government offered Norway a non-aggression pact, which was not accepted.

7: **Canada.** Louis St. Laurent introduced a resolution in parliament approving the union with Newfoundland.

North Atlantic Treaty. H. Lange, foreign minister of Norway, arrived in Washington to seek information on the proposed treaty.

8: **Hungary.** Cardinal Mindszenthy and six others accused with him were found guilty of treason at a trial in Budapest.

United Nations. The Security council began discussions on disarmament.

9. **Austria.** The deputies of the British, U.S., Soviet and French foreign ministers met in London to resume discussions on an Austrian peace treaty.

10: **Great Britain-Egypt.** Agreement was announced for a hydro-electric and irrigation scheme for the head waters of the Nile.

Bulgaria. Fifteen protestant pastors were to be tried on charges of espionage.

Germany: Western Zones. The main committee of the parliamentary council decided to accept Berlin as the 12th *land* in the West German state.

India. Nathuram Vinayak Godse, the assassin, and Narayan Apte were found guilty of the murder of Mahatma Gandhi in Jan. 1948 and were sentenced to death.

Northern Ireland. A general election was held for the House of Commons. The Unionist party obtained a majority of 22 over all other parties.

11: **Austria.** The allied council refused to authorize the Austrian Democratic union as a political party.

Malaya. The Penang council, by 15 votes to 10, rejected a proposal to secede from the federation of Malaya.

Portugal. General Norton de Mattos withdrew as a presidential candidate.

12: **Great Britain.** Earl Baldwin of Bewdley, governor of the Leeward Islands, arrived in London for consultations

Egypt. Sheikh Hassan el-Banna, leader of the Moslem Brotherhood, was assassinated in Cairo.

Germany: Western Zones. The sentence on Max Reimann was suspended in order that he might continue to serve on the parliamentary council at Bonn.

Japan. Shigeru Yoshida was elected prime minister.

13: **Czechoslovakia.** General Kutelwašr, who organized the rising in Prague in May 1945, was arrested with 14 others on charges of espionage.

France. André Marie, minister of justice, resigned on grounds of ill-health and was replaced by R. Lecourt.

Portugal. Voting took place in the presidential election. Marshal Oscar Carmona was re-elected by 941,863 votes against 4,789 to General de Mattos.

14: **Australia.** A conference of federal and state ministers agreed on plans for a £A170 million Snowy river hydro-electric project.

Burma. Parliament passed the Democratic Local Self-Government bill which replaced the old system of village administration by one providing for elected councils.

Israel. The Knesset (parliament) met for the first time.

United Nations. The U.S.A. charged the Soviet Union before the Economic and Social council with employing forced labour on a large scale.

15: **China.** General Li Tsung-jen, acting president, repeated his determination to negotiate a peace with the Communists.

Denmark. The last German refugees left the country

Eire. John Costello, prime minister, speaking to the Fine Gael party, said that "the end of partition was envisaged in our time"

O.E.E.C. A nine-power ministerial committee met in Paris under Paul-Henri Spaak of Belgium.

16: **Africa.** Representatives of Southern and Northern Rhodesia and Nyasaland met at Victoria falls to discuss federation.

Israel. The Knesset elected Dr. Chaim Weizmann as first president of Israel.

Japan. Shigeru Yoshida's third cabinet was installed in office.

Malaya. The Penang secession committee decided to by-pass the Federal Council and to take their case direct to the colonial secretary in London.

World Health Organization. The Soviet Union, Ukraine and Byelorussia announced their withdrawal.

Cricket. The fourth test match between England and South Africa at Johannesburg ended in a draw.

17: **O.E.E.C.** The council decided to set up an eight-power ministerial committee.
United Nations. The Security council referred the application of South Korea to the membership committee. The application by North Korea was rejected by 8 votes to 2.

18: **Germany: Western Zones.** The millionth ton of supplies was flown to Berlin. Ernest Bevin congratulated all concerned in the air-lift.

19: **India.** Police started a drive against Communists. By Feb. 25, 3,932 Communists were arrested in Hyderabad.
Pakistan. The world Moslem conference opened in Karachi.

20: **Burma.** The regional autonomy enquiry commission recommended the setting up of a Karen state within the union.
South Africa. Further clashes occurred between Indians and Africans in Durban.
Roman Catholic Church. The Pope denounced the life sentence passed on Cardinal Mindszenthy.

21: **Costa Rica-Nicaragua.** The ambassadors of the two states in Washington signed a pact of friendship.

22: **France.** M. Thorez, the Communist leader, made a hypothetical statement on the attitude of the French people to an anti-Soviet war, which was subsequently discussed by the National Assembly.

23: **Burma.** Rebels advancing on Mandalay occupied Myingyan and Maymyo.
Eire. Sean MacBride, minister for external affairs, stated that Eire would not join the North Atlantic treaty because of the partition of Ireland.
Finland. A vote of no confidence in the government was defeated by 2 votes.
Germany. Representatives of Britain, France, United States and the Benelux countries met in Paris to discuss frontier claims of Belgium, Luxembourg and the Netherlands.
Indo-China. It was announced that agreement had been reached between the French government and the ex-Emperor of Annam, Bao Dai.
Siam. A state of emergency was declared throughout the country
United Nations. The commission for conventional armaments agreed by 9 votes to 2 to undertake a census of national military establishments.

24: **Israel-Egypt.** An armistice agreement was signed at Rhodes.
Siam. It was announced that a plot had been discovered to assassinate the prime minister and overthrow the government
Rockets. In a test at White Sands, New Mexico, a two-stage rocket reached an altitude of 250 mi.

25: **Burma.** The government announced the recapture of Myingyan and Maymyo.
Israel-Transjordan. Armistice negotiations began at Rhodes.

26: **Great Britain.** Sir Stafford Cripps issued a statement denying suggestions made in New York by Christopher Mayhew, under secretary for foreign affairs, that British recovery was complete.
Netherlands. The government announced that it would seek to transfer its sovereignty over Indonesia to a federal government considerably before July 1, 1950.
Paraguay. General Raimundo Rolón was deposed by a "civil and military movement." He was succeeded by Dr. Felipe Molas López
Siam. A revolt broke out in Bangkok Various public buildings were taken over and fighting occurred.

27: **Egypt.** In government changes announced Ahmed Mohammed Khashaba Pasha returned to the cabinet as foreign minister
San Marino. A general election resulted in the Socialist-Communist coalition being returned to power.

28: **Europe.** A four-day meeting in Brussels of the International Council of the European Movement ended after speeches had been made by Winston Churchill and Paul-Henri Spaak
India. Informal talks on Burma were held in Delhi between Pandit Nehru, Dr. H. V. Evatt (Australia), Malcolm MacDonald and Arthur Bottomley (U.K.) and W. H. de Silva (Ceylon)
Siam. The revolt ended. A commission was appointed to investigate the causes.

MARCH

1. **Soviet Union.** Prices of food, clothing and other goods were reduced.
United States. The House of Representatives passed the Judd bill, thus lifting the ban denying Asiatics the right to immigrate to the United States.
Yugoslavia-Czechoslovakia. A trade agreement was signed in Belgrade.

2: **Germany: Western Zones.** The military governors suggested amendments to the draft consitution of West Germany.
India. Mrs. Sarojini Naidu, governor of the United Provinces, died in Lucknow.
Soviet Union. The government sent a note to Sweden alleging a series of persecutions of Soviet citizens from Latvia, Estonia and Lithuania.

3: **United States.** James Forrestal, secretary of defence, resigned and was succeeded by Louis Johnson.

4: **Burma.** The government rejected the offer of mediation made after the Delhi conference of Feb. 28.
Germany. Clement Attlee arrived in Berlin to inspect the air lift.
Siam. Three former cabinet ministers arrested and charged with plotting against the government were shot while attempting to escape.
Soviet Union. A. Y. Vyshinsky succeeded V. M Molotov as minister for foreign affairs A. I. Mikoyan, minister for foreign trade, was replaced by M. N. Menshikov.
United Nations. The Security council, by 9 votes to 1, approved the application for membership of Israel. Britain abstained and Egypt voted against.

5: **Hungary.** M. Rákosi, deputy prime minister, announced a purge of the National front.
Soviet Union. A. Gromyko succeeded A. Y. Vyshinsky as first deputy foreign minister.

6: **Chile.** Parliamentary elections were held. The government coalition of Radicals, Liberals and Conservatives secured majorities in both chambers.
Finland. The prime minister, M. Fagerholm, re-affirmed Finnish loyalty to the Fino-Soviet pact.
Atomic Energy. The British ministry of supply announced the production of plutonium at Harwell, Berkshire.

7: **Council of Europe.** Invitations to join the proposed council were sent to Denmark, Eire, Italy, Norway and Sweden.
Greece. A rebel broadcast announced that the council of the Macedonian National Liberation front had decided to increase its propaganda for an independent Macedonia.
Suez Canal. An agreement between the board and the government of Egypt was signed in Cairo.

8: **Bulgaria.** Four of the protestant pastors on trial in Sofia were sentenced to life imprisonment. Nine others were sentenced to terms of from 5 to 15 years.
Burma. The government announced that elections planned for March 28 had been postponed.
China. Dr Sun Fo, prime minister, resigned.
France. An agreement on the future status of Vietnam was formerly concluded in Paris between President Vincent Auriol and Bao Dai.
Israel. The first government of Israel was formed David Ben-Gurion remained prime minister.

9: **Cricket.** England won the fifth and last test match between England and South Africa at Port Elizabeth.

10: **Soviet Union.** The 1949 budget was presented to the Supreme Soviet. Expenditure included 79,000 million roubles for defence
United Nations. Members of the commission for Indonesia visited Republican leaders on Bangka island.

11: **Israel-Transjordan.** A cease-fire agreement was signed at Rhodes.
Italy. Alcide De Gasperi told the Chamber of the Deputies that the council of ministers had unanimously agreed to the North Atlantic treaty.

12: **Great Britain.** A successful operation for lumbar sympathectomy was performed on King George.
The War Office announced that the detachment at Aqaba was being reinforced.
Burma. Karen forces occupied Mandalay.
China. By 209 votes to 30 the legislative Yuan approved the appointment of General Ho Ying-chin as prime minister in succession to Dr. Sun Fo.

13: **Argentina.** The Constituent Assembly approved the new constitution giving additional powers to the president.
Benelux. A conference of ministers of Belgium, the Netherlands and Luxembourg at The Hague ended with agreement for the provisional economic union to operate from July 1, 1949.
North Atlantic Treaty. B. Benediktsson, foreign minister of Iceland, arrived in the United States to seek information on the proposed treaty.

14: **Burma.** The government offered an amnesty to all insurgents and also agreed to offer the Karens a separate state within the union.
Soviet Union. Further government changes were announced. N. A. Voznesensky, head of the planning commission, was replaced by M. Z. Saburov.
United States. John L. Lewis called out on strike 425,000 coal-miners in protest against the appointment of James Boyd as director of mines

15: **Great Britain.** The economic survey for 1949 was published. The first main objective laid down was increased exports to the dollar countries.

The rationing of clothes and textiles was abolished.

America. The committee on dependent territories of the Organization of American States met in Havana, Cuba.

16: **Argentina.** President Perón took the oath of allegiance to the new constitution.

Austria. The government granted *de facto* recognition to Israel the 46th state to give recognition.

France. The Council of Ministers approved the terms of the North Atlantic treaty.

North Atlantic Treaty. The eight negotiating nations invited Denmark, Iceland, Italy and Portugal to join the treaty.

South Africa. N. C. Havenga, finance minister, presented his budget to the House of Assembly and denied that the country was heading for bankruptcy.

17: **Burma.** The government's offer of an amnesty directed towards the Karens in Insein expired without a reply.

18: **Italy.** The Chamber of Deputies concluded a seven-day debate on the North Atlantic treaty. 342 votes were cast in favour, 170 against.

20: **Germany: Western Zones.** The three military governors announced that the west mark would be the only legal tender in western Berlin.

21: **Syria.** The government informed the acting mediator of its willingness to negotiate with Israel.

Transjordan. The government requested military aid from Britain to defend its southern frontier from Israeli attack.

United Nations. Admiral Chester Nimitz, U.S. navy, was appointed as Kashmir plebiscite administrator.

22: **Canada.** The budget introduced by D. C. Abbott provided for a revenue of $2,768 million. He announced substantial tax cuts.

Czechoslovakia. Captain P. Wildash of the British embassy was arrested and charged with plotting against the state. He was later released and ordered to leave the country.

Hungary. Two U.S. assistant military attachés were ordered to leave Hungary on charges of spying.

23: **Israel-Lebanon.** An armistice agreement was signed.

Leeward Islands. The governor, Earl Baldwin of Bewdley, returned to the islands after consultations in London.

International Wheat Council A four-year agreement was signed by delegates from 37 countries.

24: **China.** The government decided to communicate with the Communists expressing the hope that they would promptly appoint delegates for peace negotiations, and suggest a time and place for the talks.

Denmark. The Folketing voted in favour of joining the North Atlantic treaty by 119 votes to 23.

Siam. The State Council announced the ratification of a new constitution.

Soviet Union. Marshal A. M. Vasilevsky was appointed minister of the armed forces in succession to Marshal N. A. Bulganin.

26: **France-Italy.** A treaty was signed in Paris providing for the establishment of a customs union within one year and full economic union within six years.

Germany. The Benelux countries, France, Great Britain and the United States announced agreement on minor frontier changes in western Germany.

Rowing. In the university boat race Cambridge beat Oxford by ¼ length.

27: **China.** The Communists named April 1 for peace talks to be held in Peking.

O.E.E.C. The council of the O.E.E.C. in Paris approved the plan of action for European recovery in 1949-50.

28: **Canada.** It was announced that Sir Albert Walsh would be the lieutenant governor of Newfoundland after the union with Canada.

Council of Europe. Representatives of 10 countries met in London to prepare a draft constitution for the council.

Israel. Plans were announced for the transfer of five Israeli ministries from Tel Aviv to Jerusalem.

South Africa. The parliament approved an interim customs union with Southern Rhodesia.

United States A three-day "Cultural and Scientific Conference for World Peace" ended in New York.

29: **Canada.** The House of Commons approved the terms of the North Atlantic treaty by 149 votes to 2.

Norway. The Storting approved Norway's accession to the North Atlantic treaty.

Soviet Union. General V. I. Chuykov was appointed to succeed Marshal V. D. Sokolovsky as commander of the Soviet forces in Germany.

30: **Iceland.** The Althing voted by 37 votes to 10 in favour of joining the North Atlantic treaty.

India. The United State of Rajasthan was inaugurated at Jaipur.

Portugal. After consultations with the Spanish government it was announced that Portugal had decided to join the North Atlantic treaty.

Syria. The government was overthrown in a bloodless *coup d'état.* Colonel Husni ez-Zaim proclaimed himself acting president

31: **Egypt - Great Britain.** A financial agreement for 1949 was signed in Cairo.

APRIL

1: **Belgium.** The cabinet approved the transfer of about 10½ sq. mi. of German territory to Belgium.

Canada. Celebrations were held to mark the entry of Newfoundland into the confederation of Canada.

E.R.P. It was announced that during the first year of E.R.P. grants totalled $4,953 million and loans $898 million.

North Atlantic Treaty. A Soviet note of protest against the treaty, alleging that it was aggressive, was received by seven of the twelve participating nations.

2: **Burma.** Socialist cabinet ministers resigned.

India. The states of Travancore and Cochin decided to unite.

3: **Bulgaria-Hungary-Rumania.** The three governments received notes from the British and U.S. governments alleging violations of the peace treaty terms.

Burma. Government forces recaptured the greater part of Mandalay.

India-Pakistan. An inter-dominion conference opened in Delhi to settle certain outstanding differences.

Israel-Transjordan. An armistice agreement was signed in Rhodes.

4: **Bulgaria.** It was announced that Traicho Kostov had been relieved of his post as vice premier and had been arrested.

France. V. Kravchenko, author of *I Chose Freedom,* won his libel action against the Communist periodical *Les Lettres Françaises,* in Paris.

North Atlantic Treaty. Representatives of Belgium, Canada, Denmark, France, Iceland, Italy, Luxembourg, Netherlands, Norway, Portugal, United Kingdom and United States signed the treaty in Washington.

United States. Congress authorized further aid to China.

5: **Afghanistan.** The prime minister established himself at Jalalabad in order to arouse support for the government's policy concerning the tribal territories of Pakistan.

Burma. Government changes were announced. Ne Win was appointed deputy prime minister.

United Nations. The general assembly, adjourned from Dec. 1948 in Paris, met at Flushing Meadow, New York.

United States. A request was received from the Brussels treaty powers for assistance in carrying out their common defence programme.

6: **Great Britain.** Sir Stafford Cripps introduced his budget. Little alteration was proposed in the scale of taxation; the total expenditure for 1949-50 was estimated at £3,308,368,000, leaving a surplus of revenue of £469,382,000.

7: **Great Britain.** Elections for the London County council ended in Labour and Conservatives each having 64 seats, and the Liberals 1 seat.

United States. Notes requesting assistance for their defence programmes were received from Norway, Denmark and Italy.

8: **Bulgaria-Czechoslovakia.** It was announced that a trade agreement had been signed.

Germany: Western Zones. An agreement on Germany was signed in Washington by the foreign ministers of France, Great Britain and the United States.

Norway. The cabinet declared north Norway a special defence area under the command of Admiral Tore Horve.

United States. The Senate authorized extension of the European Recovery programme by 70 votes to 7.

Western Union. The defence ministers of the Brussels treaty powers concluded a two-day meeting at The Hague and approved a plan for the defence of western Europe.

9: **Great Britain.** In county council elections in England and Wales the Conservatives gained 360 seats and lost 19, while the Labour party gained 83 and lost 338.

International Court of Justice. The court, by 11 votes to 5, declared that Albania was responsible for the mining of two British destroyers in the Corfu channel on Oct. 22, 1946.

10: **Germany: Western Zones.** The occupation statute, to come into force on the establishment of the federal republic, was published.

11: **Great Britain.** Over 7,000 London dockers came out on strike against the dismissal of 33 men described as redundant.

International Trade. A tariff negotiation conference opened at Annecy, France.

South Africa. The bill giving South-West Africa representation in the Union parliament was passed by the House of Assembly.

12: **Great Britain.** The Labour party published its programme for the next general election under the title *Labour Believes in Britain.*

The government replied to a Soviet note on the North Atlantic treaty and rejected the suggestion that the pact was contrary to the United Nations charter.

Burma. Thakin Nu, prime minister, arrived in Delhi to confer with Pandit Nehru.

Greece. Following the King's refusal to dismiss a minister suspected of illegal currency dealings, the prime minister, T. Sophoulis, resigned.

United States. The House of Representatives voted by 354 votes to 48 to extend the European Recovery programme.

13: **Germany: Western Zones.** Two agreements between France, Great Britain and the United States on dismantling were published.

Indonesia. Representatives of 11 countries met in Delhi to review the situation in Indonesia.

Israel-Syria. It was announced that a cease-fire agreement had been signed.

Italy-Yugoslavia. Two agreements, for fishing rights and for the transfer of nine Italian naval vessels, were signed.

O.E.E.C. A two-day meeting of the council ended in Paris. Paul-Henri Spaak was re-elected president.

14: **Greece.** A new government was sworn in. T. Sophoulis remained prime minister.

Indonesia. Discussions between Dutch and Indonesian republicans opened in Batavia.

United Nations. The general assembly approved by 43 votes to 6 a resolution calling for moderation in the use of the veto.

15: **Great Britain.** The London dockers voted to return to work.

Germany. Widespread criticism was made of the Allied agreements on dismantling.

Japan. The government decided to form an advisory council to study population problems.

16: **Hungary-Czechoslovakia.** A treaty of friendship, co-operation and mutual assistance was signed in Budapest.

Paraguay. Dr. Felipe Molas López, the only candidate, was elected president.

Syria. Colonel Husni ez-Zaim formed a government, he himself becoming prime minister, minister of defence and of the interior.

17: **Bulgaria.** V. Kolarov was appointed to act for the prime minister G. Dimitrov during his absence in the Soviet Union owing to illness.

Italy. Alcide De Gasperi, prime minister, outlined plans for land reform.

Rumania. Ana Pauker and V. Luca were appointed vice premiers.

South Africa. The government issued a report on the riots in Durban in January. The report stated that 142 persons had been killed and 1,087 injured.

18: **Ireland.** The republic of Ireland was formally inaugurated.

19: **Soviet Union.** A joint decree of the government and of the Communist party announced plans for increasing agricultural produce by one-half by 1951.

United States. President Truman signed authorization to extend the European Recovery programme for a further 15 months.

20: **China.** Peace negotiations between Nationalists and Communists broke down.

H.M.S. "Amethyst" was fired on by Communist artillery and driven aground in the Yantse 15 mi. east of Chinkiang.

France. A Communist-sponsored "World Congress of Partisans of Peace" opened in Paris.

Japan. The 1949-50 budget, involving an expenditure of 704,667 million yen, was passed by the Diet.

21: **Commonwealth Conference.** A conference of the dominion prime ministers opened in London.

Egypt. King Farouk received Colonel Husni ez-Zaim, acting president of Syria.

Red Cross Conference. Fifty-six countries were represented at the opening of a conference in Geneva to consider four international conventions for the protection of victims of war.

22: **Iran.** It was announced that 20 leaders of the Tudeh party had been tried by court martial and imprisoned.

United Nations. The *ad hoc* political committee adopted by 34 votes to 6 a Bolivian resolution condemning the Hungarian and Bulgarian governments for the trials of religious leaders.

Medicine. At the Mayo clinic, Rochester, Minnesota, it was disclosed that a hormone, Compound E, might eventually prove to be an agent of control in rheumatism, although not of immediate practical significance.

23: **Cochin-China.** The territorial assembly voted for the inclusion of Cochin-China within Vietnam.

Egypt. The government decided to recognize the new Syrian administration.

Germany-Netherlands. The boundary between the two countries was adjusted in favour of the Netherlands.

24: **China.** Nanking, the capital, was captured by Communist forces.

Indo-China. Bao Dai, ex-emperor of Annam, left France to return to Indo-China.

25: **Belgium.** King Leopold had a meeting in Berne with the Regent and M. Spaak, prime minister.

Germany: Western Zones. The text of a draft agreement by the parliamentary council at Bonn on the West German constitution was transmitted to the British, French and American military governors.

United Nations. The general assembly, by 39 votes to 6, with 11 abstentions, called on the Soviet government to allow Russian women to join their foreign husbands.

Shipping. The Royal Mail turbine liner "Magdalena" ran aground off the Brazilian coast, homeward bound on her maiden voyage. She broke in two next day while being towed to Rio de Janeiro.

26: **Germany.** It was announced that conversations had been held between Y. A. Malik, U.S.S.R., and P. C. Jessup, U.S.A., at Lake Success on the lifting of the Berlin blockade.

27: **Belgium.** M. Spaak reported to the cabinet on his talks with King Leopold. The Socialist trade unions issued a warning that a general strike would be called if the King returned against the will of parliament.

France. The franc was devalued from 1,061 to the pound sterling to 1,096.

Syria. The government of Colonel Husni ez-Zaim was recognized by Great Britain and the United States.

28: **Commonwealth.** At the end of the conference in London a declaration was published whereby the Commonwealth governments accepted India's full membership within the Commonwealth as a republic.

Ireland. Pandit Nehru, prime minister of India, was received on the floor of the Dail.

Uganda. The governor proscribed the Bataka party and the African Farmers' union following disturbances in Kampala. The province of Buganda was declared a disturbed area.

29: **Ireland.** D. S. Senanayake, prime minister of Ceylon, visited Dublin.

Uganda. The situation in Kampala was reported to be quieter. Police made over 200 arrests.

30: **Austria.** O. Helmer, minister of the interior, announced the government would allow unrestricted formation of new political parties.

Germany. A three-day dispute in Berlin caused by the Soviet authorities' attempt to control canal traffic ended with a Soviet promise not to interfere with craft of the western powers moving in the British sector.

United Nations. The general assembly, by 34 votes to 6, called on Hungary and Bulgaria to answer the British and United States charge of violation of the human rights clause in the peace treaties.

Football. Wolverhampton Wanderers beat Leicester City by 3 goals to 1 in the Football association cup final at Wembley, London.

MAY

1: **Argentina.** President Perón re-affirmed the government's policy to nationalize all public services including transport.

Bolivia. General elections were held. Fighting broke out in which five people were reported killed.

Egypt. The government decided to ask parliament to retain martial law for a further year.

India. Baroda state was formally merged with Bombay province.

Soviet Union. At the May day parade in Moscow Marshal A. M. Vasilevsky, minister of the armed forces, read out an order of the day warning the people that the North Atlantic treaty was a threat to peace.

2: **Bolivia.** The government declared a state of siege.

Ireland. Liaquat Ali Khan, prime minister of Pakistan, arrived in Dublin.

Italy. The resumption of diplomatic relations with Albania was announced.

3: **Great Britain.** The government's Ireland bill was published. It recognized the change of status of southern Ireland, but declared it not to be a foreign country. The bill also affirmed that no part of Northern Ireland should cease to be part of the United Kingdom without the consent of the parliament of Northern Ireland.

Greece. Parliament passed a vote of confidence in the government by 224 votes to 47.

Soviet Union. The government announced a state loan of 20,000 million roubles, redeemable in 20 years, for economic development.

Transjordan. King Abdullah accepted the resignation of his cabinet.

4: **Belgium.** The Chamber of Deputies ratified the North Atlantic treaty by 139 votes to 22.

Council of Europe. Ministers of Norway, Sweden, Denmark, Italy, Ireland and the Brussels treaty powers reached full agreement on the statute of the Council of Europe at a meeting in London.

Germany. P. C. Jessup (U.S.), Y. A. Malik (U.S.S.R.), J. Chauvel (France) and Sir Alexander Cadogan met in New York. Agreement was reached on the lifting of the Berlin blockade.

Ireland. Patrick McGilligan, minister of finance, presented his budget to the Dail. He proposed a reduction of 6*d.* in the standard rate of income tax.

5: **Great Britain.** It was announced that the government had decided to drop the charges of war crimes against Field Marshal von Rundstedt and General Strauss.

Council of Europe. The statute of the Council of Europe was signed in London by representatives of Belgium, Denmark, France, Great Britain, Ireland, Italy, Luxembourg, Netherlands, Norway and Sweden.

7: **Indonesia.** The preliminary conference at Batavia agreed that the Republican government should return to Djokjakarta, guerrilla warfare cease and a round table conference be held at The Hague.

Transjordan. The cabinet was reshuffled. Tawfiq Pasha Abulhuda remained prime minister.

8: **Germany: Western Zones.** The basic law of the West German state was passed by 53 votes to 12 in the parliamentary council at Bonn.

Italy. Count Sforza returned to Rome after reaching agreement with Ernest Bevin on a new plan for the former Italian colonies. The ministers proposed that Tripolitania would return to Italian trusteeship in 1951.

9: **Monaco.** Prince Louis II died. He was succeeded by Prince Rainier.

10: **Council of Foreign Ministers.** The deputies who had been discussing the draft Austrian peace treaty for three months adjourned.

Germany: Western Zones. The parliamentary council decided that Bonn should be the capital of Western Germany.

Ireland. The Dail unanimously passed a resolution protesting at the action of the British government in introducing its bill upholding the status of Northern Ireland.

11: **Austria.** Parliament unanimously passed a resolution appealing to the four powers to conclude a peace treaty.

Council of Europe. The preparatory commission held its first meeting in Paris.

United Nations. The general assembly admitted Israel as the 59th member state by 37 votes to 12.

12: **Great Britain.** The House of Commons approved the North Atlantic treaty by 333 votes to 6.

Germany. At one minute after midnight the blockade of Berlin was lifted.

The western military governors approved the constitution for a federal republic of Western Germany.

13: **Great Britain-Israel.** It was announced that the status of the representatives in Tel Aviv and London would be raised to ministers.

14: **Germany.** A charter for the western sector of Berlin, on the lines of the occupation statute for Western Germany, was agreed to by France, Great Britain and the U.S.A.

Libya. A state of emergency was proclaimed in Tripoli after demonstrations and strikes against the Bevin-Sforza agreement.

Paraguay. Dr. Felipe Molas López was installed as president.

United Nations. The general assembly approved a proposal inviting South Africa, India and Pakistan to discuss the treatment of Indians in the Union at a round-table conference.

The convention on news transmission and rights of correction was adopted by 33 votes to 6.

15: **Germany: Soviet Zone.** Elections on a single-list system began for the third People's Congress.

Hungary. Elections were held for the National Assembly. 95% of the votes cast were for the People's Independence front.

16: **China.** Communist troops entered Hankow.

United Nations. The general assembly failed to give a two-thirds majority to a proposal calling for the resumption of diplomatic missions in Spain.

17: **Germany: Soviet Zone.** Results were published for elections to the People's Congress. 66·1% of the votes cast were in favour of the single list of candidates, 33·9% against.

India. The Constituent Assembly approved the agreement on India reached at the Commonwealth conference.

Israel-Syria. Armistice talks were suspended until further proposals would be made by the acting mediator.

18: **Great Britain.** Five parliamentary private secretaries were dismissed because they voted against the Ireland bill.

K. Zilliacus and L. J. Solley were expelled from the Labour party.

International Bank. It was announced that the executive directors had accepted the resignation of John McCloy (appointed U.S. high commissioner in Germany) and had appointed Eugene Black to succeed him.

Italy. About 400,000 farm labourers in the Po valley came out on strike for better working conditions.

Spain. General Franco accused Britain of failing to keep her promises and quoted Mr. Churchill as having promised that Britain would help Spain to become a strong power in the Mediterranean and support her territorial claims in north Africa.

United Nations. The general assembly failed to give a two-thirds majority to a Bevin-Sforza plan for the Italian colonies.

19: **Great Britain.** The discovery was announced of a new coalfield near Lichfield, Staffordshire, which was expected to yield 400 million tons of coal.

Belgium. Parliament was dissolved and elections were ordered for June 26.

Finland. President J. K. Paasikivi pardoned ex-president Risto Ryti who had been sentenced to ten years' imprisonment by the war guilt tribunal.

Germany. The western authorities in Berlin protested to the Soviet military governor against restrictions on traffic from western Germany.

20: **Austria.** Dr. Karl Gruber, foreign minister, in a speech to the People's party congress, called for an early end to the four-power occupation of Austria.

China. The Legislative Yuan asked the cabinet to seek United Nations' mediation in the civil war.

France. The government granted *de jure* recognition to Israel.

Germany: Western Zones. The first meeting of the international authority for the Ruhr was held in London.

Greece. Archbishop Damaskinos died in Athens.

It was announced that discussions had taken place in New York between A. Gromyko (U.S.S.R.), Hector McNeil (U.K.) and D. Rusk (U.S.A.) on proposals for a settlement in Greece put forward by Gromyko.

21: **Germany.** Railway workers in the western sectors of Berlin went on strike in an attempt to enforce the Soviet-controlled Reichsbahn authorities to pay them in western marks.

India. The All-India Congress committee approved India's continued membership of the Commonwealth.

22: **Burma.** Insein, ten miles north of Rangoon, was occupied by government troops.

Colombia. A new government was formed with Colonel Regulo Gaitán as prime minister.

Cyprus. Municipal elections were held. About 60% of the electorate voted for the Nationalists and 40% for the Communist party.

France. The National Assembly passed, by 351 votes to 209, a bill empowering Cochin-China to join the Indo-Chinese states of Tonkin and Annam.

23: **Council of Foreign Ministers.** The sixth session of the council opened in Paris. Present were Ernest Bevin (U.K.), R. Schuman (France), A. Vyshinsky (U.S.S.R.) and Dean Acheson (U.S.A.).

Hungary. The minister of education, Gyula Ortutay, announced the nationalization of all theatres.

South Africa. The government announced stringent new restrictions on imports from the sterling area and from the United States.

Western Germany. The West German constitution was signed at Bonn by the members of the parliamentary council. The constitution was formally promulgated and the republic came into existence at midnight.

25: **China.** Communist forces entered Shanghai. Occupation was completed two days later.

26: **India.** The Constituent Assembly decided to abolish the reservation of seats in the legislatures for minorities except for the scheduled castes and Sikh backward classes.

Railways. An electric train set up a new speed record by travelling from Paris to Bordeaux in 4 hr. 26 min.

27: **Canada.** Provincial elections were held in Newfoundland. The Liberal party obtained a majority of seats in the Legislature.

Germany. The Soviet authorities stopped further rail traffic from Western Germany to Berlin.

28: **Bolivia.** Rioting broke out in the tin mines of the Patino company.

29: **Greece.** It was announced that from June 1946-March 1949, 37,934 officers and men of the government forces had been killed or wounded.

Syria. The existing political parties were dissolved.

Western Germany. Max Reimann was re-imprisoned after being released from Feb. 12 to serve on the parliamentary council at Bonn.

30: **Australia.** It was announced that radio-active minerals with a high uranium content had been discovered in central Australia.

China. The Nationalist government resigned.

Council of Foreign Ministers. A. Vyshinsky rejected a western powers' proposal for a united Germany under a democratic German government subject to limited four-power control.

31: **Great Britain - Argentina:** It was announced in Buenos Aires that agreement in principle had been reached on a new trade pact.

Bolivia. The government proclaimed a state of siege and outlawed the national revolutionary movement, the Communist party and the Workers' Revolutionary party.

Luxembourg. The Chamber of Deputies ratified the North Atlantic treaty by 46 votes to 5.

JUNE

1: **Great Britain.** General Sir Brian Robertson was appointed British high commissioner in Germany.

It was announced that Britain had sent notes to the Rumanian, Bulgarian and Hungarian governments informing them that enforcement action would be taken in consequence of violation of the human rights clauses in the peace treaties.

Cyrenaica. The British administrator in Cyrenaica announced at Benghazi that Britain was granting Cyrenaica independence in internal affairs under Emir Idris el-Senussi. The Emir issued a proclamation of independence.

India. The administration of Bhopal state was taken over by the government of India.

2: **Transjordan.** It was announced that the name of the country had been changed to the Hashimite Kingdom of the Jordan.

3: **China.** The Legislative Yuan approved the appointment of Marshal Yen Hsi-shan as prime minister in succession to Ho Ying-chin.

4: **O.E.E.C.** A two-day meeting of the eight-power consultative group ended in Paris. Agreement was reached on plans for "liberalizing" intra-European trade.

Horse Racing. The Derby was won by Mrs. M. Glenister's Nimbus, ridden by E. C. Elliott.

5: **Great Britain.** Railwaymen in north-east England staged a one-day strike for the fourth Sunday in succession in protest against lodging turns.

Colombia. General elections were held. The Liberals emerged as the largest party.

Denmark. The centenary of the constitution was celebrated. A delegation from the British parliament was present in Copenhagen.

6: **Great Britain.** The annual conference of the Labour party opened in Blackpool.

Australia. The High Court declared that petrol rationing by the federal government was illegal.

7: **Great Britain.** Troops were used in a dock strike at Bristol. 2,000 dockers came out in Liverpool.

Germany. The western commanders of Berlin decided to reduce the executive functions of the Kommandatura. Its 18 committees were reduced to seven.

India. The government took over the administration of Sikkim at the request of the Maharajah.

North Atlantic Treaty. Sir Oliver Franks, British ambassador in Washington, handed Britain's ratification of the treaty to the U.S. State Department.

8. **International Labour Organization.** The 32nd conference of the organization opened in Geneva. Sir Guildhaume Myrddin-Evans (Great Britain) was elected president.

Siam. The embassy in London announced that the name of the country would be Thailand, and of the people and nationality, Thai.

Syria. The government signed two agreements with the Anglo-Iranian Oil company, the first for the passage of a pipe line through Syrian territory and the second for the construction of a refinery at Tartus.

9: **Canada.** Provincial elections were held in Nova Scotia. The Liberal government was returned to power.

10: **Hungary.** A new cabinet was formed. Istvan Dobi remained prime minister. L. Rajk, former foreign minister, was dropped from the government.

Northern Ireland. An election was held for 12 members of the Senate. Nine Unionists and three Anti-Partitionists were elected.

11: **Great Britain.** George Isaacs, minister of labour, broadcast an appeal to the strikers to return to work.

Albania. Koçi Xoxe, former vice-premier, was shot after being sentenced to death for collaboration with Marshal Tito.

United States. President Truman, in a speech at Little Rock, Arkansas, declared that a lasting world peace must have three essential conditions: first, the United States must be strong and prosperous; second, other nations devoted to peace and freedom must also be strong and prosperous; and third, there must be an international structure capable of maintaining peace.

12: **Great Britain.** Dockers at Liverpool voted to return to work. Railwaymen again staged a Sunday strike in north-east England.

Trieste. Elections were held for a new local administration. The Christian Democrats received the largest number of votes, with the pro-Cominform Communists second.

13: **Great Britain.** Railwaymen in London voted to "work to rule" if their wage increases were not settled by July 4.

Soviet Union. The government rejected the British and United States requests for a three-power meeting to discuss alleged treaty violations by Bulgaria, Hungary and Rumania.

Western Germany. Belgian troops occupied the Fischer-Tropsch works in the Ruhr after a dismantling squad had been refused access.

14: **Great Britain.** Dockers at Bristol voted to return to work.

Burma. The Karen National Defence organization announced the formation of a Karen cabinet with Saw Ba U Gyi as prime minister.

Italy. It was announced that vast deposits of petroleum had been discovered in the Po valley.

Cricket. The first test match between England and New Zealand at Headingley, Leeds, ended in a draw.

15: **Canada.** Provincial elections were held in British Columbia. The Liberal-Conservative coalition remained in power.

Hungary. It was announced that L. Rajk and T Szonyi had been expelled from the Communist party as "spies and Trotskyist agents of foreign and imperialist powers."

United Nations. The Atomic Energy commission decided to abandon its sittings until the five permanent members of the Security council and Canada had found a basis for agreement.

17: **Bulgaria.** It was announced that Traicho Kostov, former deputy prime minister, would be excluded from the national assembly because of his "anti-Dimitrov and anti-Stalin activities."

18: **Czechoslovakia.** Archbishop Joseph Beran stated that he would never conclude an agreement with the state which would infringe the rights of the Church.

Mexico A new parity of 8 65 pesos to the U.S. dollar was announced.

Western Union. The consultative council of the treaty powers ended a two-day meeting in Luxembourg.

19: **China.** Mao Tse-tung addressed the preparatory committee of the political consultative conference, which, he said, would announce the formation of a people's republic and elect a coalition government.

Czechoslovakia. Youths demonstrated in Prague cathedral while Archbishop Beran was preaching. A pastoral letter signed by the archbishop was read from the pulpits throughout the country. It declared that all clergy joining the government-sponsored Catholic Action committee would be excommunicated.

Hungary. It was learned that the government had repudiated the 1947 trade agreement with Yugoslavia.

India. Chandernagore, a French possession in India, voted by 7,473 votes to 114 to merge with India.

20: **Great Britain.** The Royal Commission on Population, set up in March 1944, presented its report.

It was announced that the government had decided to raise the embargo on the supply of arms to Jordan and Iraq.

Council of Foreign Ministers. A communiqué issued after the final meeting of the council announced details of agreements reached concerning Germany and Austria.

Dominican Republic. President Trujillo stated that a rising had been attempted in Puerto Plata

Western Germany. The charter of the Allied High Commission for Germany was signed by Dean Acheson, Ernest Bevin and Robert Schuman in Paris.

21: **Great Britain.** It was announced that the four M.Ps. expelled from the Labour party had formed a Labour Independent group with D. N. Pritt as chairman.

Australia. Joseph Chifley, federal prime minister, asked the state premiers to take over petrol rationing.

Western Germany. The Berlin city assembly passed a resolution calling for the inclusion of Berlin as the 12th *Land* in the West German state.

Shipping. "Prinses Astrid," a cross-channel steamer, struck a mine off Dunkirk and sank after 90 min. Five of the crew were killed.

23: **Italy.** The general strike of hired farm labourers in the Po valley ended. Landowners and the two confederations of labour reached agreement.

Netherlands. The rationing of butter, fats, margarine and edible oils ended.

O.E.E.C. Sir Stafford Cripps, M. Spaak (Belgium), M. Petsche (France), A. Harriman (U.S.) and M. Marjolin (O.E.E.C) held talks in Brussels on convertibility of drawing rights under the intra-European payments scheme.

Western Germany. The Bizonal Economic council called on the western powers to stop dismantling of factories in Germany.

24: **Greece.** T. Sophoulis, prime minister, died. Konstantinos Tsaldaris was asked to form a government.

Pakistan-India. A one-year trade agreement was signed in Karachi.

Uruguay. The cabinet resigned after the Chamber of Deputies had passed a vote of censure on the finance minister, Ledo Arroya Torres.

25: **China.** The Nationalist government imposed a blockade of ports and territorial waters from Foochow to Manchuria.

Egypt. Mixed tribunals which had been in existence for 67 years were ended.

Ireland-Sweden. A trade agreement—the the first between the two countries—was signed in Dublin.

Syria. Colonel Husni ez-Zaim was elected president at an election in which he was the only candidate.

26: **Belgium.** The second postwar general election was held. The Social Christian party gained 13 seats in the Chamber of Deputies but just failed to secure a majority.

Korea. Kim Koo, a former president of the provisional government, was assassinated in Seoul.

Syria. Muhsin Barazi formed a government.

Trade Union International. Representatives of 38 national trade union centres concluded a two-day meeting in Geneva. It was decided to set up a new trade union international.

27: **Great Britain.** 2,500 London dockers went on strike in sympathy with Canadian seamen who were on strike.

Argentina-Great Britain. A new trade treaty was signed in Buenos Aires.

Australia. 23,000 miners stopped work in a nation-wide strike for higher wages and improved conditions

Canada. In a general election for the House of Commons the Liberal party under Louis St. Laurent was returned with an increased majority.

Czechoslovakia. The Ministry of Education issued a decree stating that all Roman Catholic circulars and communications must first be submitted to the state authorities.

28: **Great Britain.** A delegate meeting of the National Union of Railwaymen decided to reject a wage offer from the Railway executive and called for a go-slow campaign from July 3.

Belgium. Paul van Zeeland, Social Christian, agreed to form a government.

Germany. Most of the Berlin railway workers on strike returned to work.

United States. Robert F. Wagner resigned as a senator for New York. Governor Thomas E. Dewey appointed John Foster Dulles to succeed him.

Cricket. The second test match between England and New Zealand at Lord's, London, ended in a draw.

29: **Great Britain.** The Royal Commission on the Press, set up in 1947, published its report. It recommended that the press should establish a General Council of the Press.

Australia. The House of Representatives passed the Coal Strike bill which forbade the trade unions to use their funds to assist or encourage the coal strike.

Greece. K. Tsaldaris failed to form a government. A. Diomidis was asked to try.

Korea. The last United States troops left Korea.

30: **Great Britain.** More than 7,250 dockers were on strike.

China The British representative in Canton informed the government of Britain's inability to recognize the closure of territorial waters.

Greece. A new government led by A. Diomidis was sworn in.

O.E.E.C. A two-day council meeting ended in Paris. Agreement was reached on the outlines of a new intra-European payments scheme.

JULY

1: **Great Britain.** The National Union of Railwaymen called off its go-slow campaign.

Council of Foreign Ministers. The deputies of the foreign ministers re-assembled in London to resume discussions on the Austrian peace treaty.

France The high court of justice, set up in 1944 to try ministers and senior officials on charges of collaboration, finished its last case.

India. Travancore and Cochin were merged into one state.

Bulgaria. Gheorghi Dimitrov, prime minister, died in a sanatorium near Moscow.

Lawn Tennis. The championships at Wimbledon ended, F. R. Schroeder (U.S.) having won the men's singles. Miss Louise Brough (U.S.) won the women's singles for the second successive year.

3: **Afghanistan.** The president of the Afghan parliament declared that Afghanistan did not recognize the Durand line as the frontier with Pakistan.

4: **Great Britain.** Eighty-eight ships were idle at the London docks; 8,336 men were on strike.

United Nations. The ninth session of the Economic and Social council opened in Geneva.

5: **Finland.** The markka was devalued by 18 1%.

Germany. The four deputy military governors agreed to set up a committee to consider questions of trade, finance and communications between Western Germany and the Soviet zone.

6: **Great Britain.** Sir Stafford Cripps told the House of Commons that in the three months to June 30 gold reserves had fallen from £471 million to £406 million.

Australia. The High Court upheld the validity of the Coal Strike act.

Belgium. Following the failure of Paul van Zeeland to form a government, Frans van Cauwelaert, Social Christian, agreed to try.

7: **Great Britain.** Troops began to handle food at the London docks. Over 8,000 men were on strike.

Ireland. The government was defeated on the estimates for the Department of Posts and Telegraphs.

Western Union. Four-day naval exercises ended. Admiral Sir Rhoderick McGrigor, U.K., was in command of vessels of Great Britain, France, the Netherlands and Belgium

8: **Great Britain.** Discussion on Britain's dollar situation opened in London between Sir Stafford Cripps, John Snyder (U.S.) and D. Abbott (Canada).

International Refugee Organization. John D. Kingsley, United States, was appointed director general.

U.N.E.S.C.O. It was announced that Monaco had become the 48th member.

United States. The trial for perjury of Alger Hiss ended when the jury failed to reach a unanimous decision.

9: **France.** The National Assembly ratified the statute of the Council of Europe by 423 votes to 182.

Hungary. Cardinal Mindszenthy's appeal against his life sentence was dismissed.

Golf. Bobby Locke, South Africa, beat H. Bradshaw by 12 strokes to win the British open golf championship.

10: **W.F.T.U.** A second congress of the federation ended in Milan. Seats were left vacant on the executive committee for Great Britain, United States, Canada and Australia.

Yugoslavia. In a speech at Pola, Marshal Tito stated that the first half of Yugoslavia's five-year industrialization plan had been completely fulfilled. He also announced the closing of the frontier with Greece.

11: **Great Britain.** A state of emergency was declared because of the continuance of the London dock strike.

Philippines. President Quirino and General Chiang Kai-shek concluded talks in Baguio on a proposed Pacific treaty similar to the North Atlantic treaty.

Western Germany. The British and U.S. sectors of Berlin were opened to tourists.

12: **Great Britain.** The government appointed a five-man emergency committee for the docks.

Egypt. The frontier with Cyrenaica was closed owing to the reluctance of the British military administration to surrender three ex-members of the Moslem Brotherhood.

13: **Great Britain** A conference of Commonwealth finance ministers opened in London to consider the problem of the balance of payments between the sterling and dollar areas

Ireland. The Dail unanimously ratified the statute of the Council of Europe.

Italy. The Chamber of Deputies passed, by 271 votes to 8, a bill authorizing approval of the statute of the Council of Europe.

Roman Catholic Church. The Congregation of the Holy Office issued a decree laying down the penalty of excommunication for Roman Catholics who professed, defended or propagated Communist doctrine.

14: **China.** Extensive flooding of the Yangtse and Yellow rivers caused 20,000 casualties and rendered two million people homeless.

World Council of Churches. A conference of the central committee of the council ended at Chichester, Sussex.

15: **Czechoslovakia.** A bill giving the state control over the churches was published in Prague.

Western Union. The defence ministers of the Brussels treaty powers met in Luxembourg. United States and Canadian observers were present.

16: **Rifle Shooting.** Captain E. Brookes won the King's Prize at Bisley, Surrey, with 278 points.

18: **Commonwealth.** The conference of Commonwealth finance ministers ended with agreement on short-term and long-term financial policies.

Australia. Miners in Western Australia returned to work.

Guatemala. Colonel Francisco Arana, chief of the armed forces of Guatemala, was assassinated and a revolt was started.

United Nations. The Palestine commission resumed negotiations in Lausanne.

19: **Great Britain.** The Dock Labour board ordered all dockers to return to work. The government later repudiated the the statement.

Sir Stafford Cripps, chancellor of the exchequer, left for Switzerland to undergo treatment for a digestive complaint.

John George Haigh was sentenced to death at Lewes, Sussex, for murder. He admitted murdering nine persons.

Ceylon. The ban on the entry of Dutch ships and planes was lifted after being in force from Dec. 1948.

France. President Vincent Auriol and the King of Laos signed an agreement by which Laos would become a sovereign independent state within the French union.

Guatemala. A state of grave emergency was declared because of a revolt.

United States. Prohibition ended in Kansas after being in operation from 1880.

20: **Bulgaria.** Vasil Kolarov was elected prime minister by the National Assembly.

Guatemala. The revolt was reported to have failed.

Israel-Syria. After negotiations lasting 105 days an armistice agreement was signed.

Soviet Union. The government sent a note to Italy protesting at Italy's adherence to the North Atlantic treaty.

21 **Great Britain.** In a foreign affairs debate in the House of Commons, Ernest Bevin blamed the policy of unconditional surrender for difficulties of remodelling Germany

Labour retained its seat in a by-election at West Leeds.

Lord Ammon, chairman of the Dock Labour board, resigned his post as chief government whip in the House of Lords.

Italy. The Chamber of Deputies approved the North Atlantic treaty by 323 to 160 after a vote the previous day had been declared void

United States. The Senate ratified the North Atlantic treaty by 82 votes to 13.

22· **Great Britain.** The Foreign Office issued copies of the Corrective Labour codex of the R.S.F.S R. (Russia proper).

Canada. The Canadian Seamen's union decided to call off the London dock strike.

War Crimes. Otto Abetz, wartime German ambassador to France, was sentenced to 20 years' hard labour by a French military court.

23: **Great Britain.** The Conservative party published its statement of policy and its election programme under the title *The Right Road for Britain.*

Belgium. Gaston Eyskens, Social Christian, was asked to form a government.

India. Pandit Nehru told his provincial premiers that India should be self-sufficient in food by the end of 1951 and urged them to put the food drive on a war footing.

Cricket. J. Robertson, playing for Middlesex against Worcester, scored 331 not out—the highest score in England since 1938.

25: **Great Britain.** Dockers in the London docks returned to work. During the strike troops handled 107,643 tons of cargo.

Egypt. The prime minister, Ibrahim Abdelhadi Pasha, resigned. King Farouk asked Hussein Sirry Pasha to form a government.

Germany. The Soviet authorities re-opened the crossing points on the Soviet zone-West German frontier.

United States President Truman signed the North Atlantic treaty. Later he sent a message to congress requesting early consideration of a plan for military aid.

26: **Great Britain.** The House of Commons, by 245 votes to 185, approved the government's handling of the London dock strike.

Australia The Privy Council in London dismissed the Australian government's appeal against a High Court decision invalidating the Banking act.

Ecuador. An attempted revolution led by Colonel Carlos Manchero, president for two weeks in 1947, was smashed.

Cricket. The third test match between England and New Zealand at Old Trafford, Manchester, ended in a draw.

27: **Great Britain.** The House of Lords, by 45 votes to 27, agreed to a proposal that legislation should be introduced enabling peeresses to sit in the House.

The Labour party expelled Lester Hutchinson, M.P., from the party.

Australia. A state of emergency was declared in Victoria following strike threats of tug crews and seamen

North Atlantic Treaty. The National Assemblies of Portugal and France ratified the treaty.

Aviation. The de Havilland Comet, the first British jet airliner, flew for the first time.

28· **Germany.** The Berlin city assembly passed a bill providing that anyone found guilty of trying to abduct persons from the western sectors would be liable to imprisonment.

Israel. The government informed the Conciliation commission that it was willing to take back 100,000 Arab refugees.

29: **Germany.** The British and United States military governments announced that the air-lift to Berlin would be reduced as from Aug. 1.

30: **Great Britain.** Parliament rose for the summer recess, having sat on a Saturday for the first time since 1939.

China. H.M.S. "Amethyst," detained in the Yangtse from April 20, slipped her moorings and sailed to the open sea.

Italy. The Senate ratified the North Atlantic treaty by 175 votes to 81

31: **Great Britain.** H.M. the King approved the immediate award of the D.S.O. to Commander J. S. Kerans of H.M S. "Amethyst"

AUGUST

1: **Great Britain.** Notes were sent to the governments of Bulgaria, Hungary and Rumania on the question of violation of the peace treaties.

Belgium. A Socialist party delegation conferred with King Leopold in Switzerland.

North Atlantic Treaty. The United States chiefs of staff conferred in Frankfurt with military representatives of Luxembourg and Italy.

Rumania. The first collective farms were established.

United Nations The Commission for Conventional Armaments approved a French proposal by eight votes to three for census and verification of armed forces of member states.

2: **Australia.** Troops began to cut open-cast coal in New South Wales.

Belgium. Delegations from the Christian Social and Liberal parties left Brussels to visit King Leopold.

North Atlantic Treaty. The United States chiefs of staff arrived in London for discussions with military leaders of Great Britain, Denmark and Norway.

Pakistan. Sir Francis Mudie, governor of West Punjab, handed over to Sardar Abdurrab Nishtar.

3: **Indonesia.** The Dutch and the Indonesian Republicans ordered a cease-fire from noon.

Netherlands. The Upper House approved the North Atlantic treaty by 29 votes to 2; and thus the treaty had been approved by the legislatures of all the countries that had signed the treaty.

New Zealand. A national referendum resulted in 535,031 votes in favour of peacetime conscription and 134,451 against.

4: **Italy-Yugoslavia.** A one-year trade agreement was signed in Rome.

Korea. It was reported that 4,000 troops from northern Korea had crossed the border into southern Korea.

North Atlantic Treaty. The United States chiefs of staff arrived in Paris for discussions with representatives of France, Belgium, Netherlands and Portugal and with Field Marshal Viscount Montgomery of Alamein.

5: **Great Britain.** The government announced that it was referring the dispute with Norway over fishing rights to the International Court of Justice.

Belgium. A statement from King Leopold was issued in which he declared that the political parties and not himself were responsible for finding a basis for agreement on his possible return.

Ecuador. A severe earthquake occurred in the province of Ambato. More than 4,000 persons were killed.

Hungary. The Council of Ministers approved a new draft constitution modelled on the Soviet Union constitution of 1936.

United States The State Department published a white paper on U.S. relations with China in the period 1944-49.

The Senate passed the Foreign Aid bill by 63 votes to 7.

6: **Bulgaria.** Vladimir Poptomov was appointed foreign minister in succession to Vasil Kolarov, appointed prime minister on July 20.

7: **Iran.** Martial law, which had been imposed after the attempt on the Shah's life in February, was lifted.

Aviation. An endurance record for jet-powered aircraft was set up by a Gloster Meteor, piloted by Patrick Hornidge, who remained airborne for 12 hr. 3 min.

8: **Council of Europe.** The committee of ministers met in Strasbourg. It decided to admit to membership Greece, Iceland and Turkey and also approved the council's budget for the first year of Fr.140 million.

India-Bhutan. A treaty of perpetual peace and friendship was signed in Darjeeling.

Norway. Fresh, condensed and dried milk, cream and cheese were de-rationed.

Philippines. President Quirino arrived in Washington on an official visit.

9: **Great Britain.** The Board of Trade announced that an agreement had been signed for the supply of 100,000 standards of softwood from the Soviet Union.

United States. The joint chiefs of staff returned to Washington after conversations in Europe with military leaders of the North Atlantic treaty powers.

10: **Belgium.** A coalition cabinet of Christian Socials and Liberals was formed with Gaston Eyskens as prime minister.

Council of Europe. The consultative assembly opened in Strasbourg under the presidency of E. Herriot of France. 101 delegates were present from the participating countries.

Western Germany. General Joseph Koenig left Germany after being military governor of the French zone from 1945.

11: **Argentina.** Dr. Juan A. Bramuglia resigned as foreign minister and was replaced by Dr. Hipólito Jesús Paz.

Council of Europe. Paul-Henri Spaak was elected first permanent president of the assembly.

United Nations. The Security council decided by nine votes to none to lift the embargo on the supply of arms to middle east countries

United States. The president signed the National Security bill under which the national military establishment became the Department of Defence. General Omar Bradley was nominated first chairman of the joint chiefs of staff.

12: **Red Cross Conference.** The conference in Geneva ended after approving four conventions on the care of wounded and sick soldiers and sailors, treatment of prisoners of war, and the protection of civilians.

Soviet Union. The government announced that it regarded Marshal Tito's government no longer as a friend and ally but as an enemy and opponent of the Soviet Union.

Archery. Mrs. Barbara Waterhouse (Great Britain) won the women's world archery championship in all categories in Paris Hans Deutgen Sweden, became men's champion.

13: **Council of Europe.** The committee of ministers approved the assembly's agenda.

14: **Australia.** Troops were withdrawn from the open-cast coal workings.

Syria. Husni ez-Zaim, president, and Muhsin Barazi, prime minister, were arrested by a group of army officers headed by Colonel Sami Hinnawi, tried by a military tribunal and shot.

Western Germany. Elections were held in the western zones for the Bundestag of the West German federal parliament. The final result gave the Christian Democrats 139 seats and the Social Democrats 131. 78 5% of the electorate voted.

15: **Australia.** The miners returned to work.

France. Winston Churchill was made an honorary citizen of Strasbourg

Malta. Dom Mintoff, deputy prime minister, resigned in London after differences with Paul Boffa, prime minister, over the conduct of talks with the British government.

Syria. Colonel Sami Hinnawi handed over control to a government headed by Hashem Bey Atassi.

16: **Malta.** E. Ellul, commissioner general in London, resigned.

O.E.E.C. Paul van Zeeland was elected president in succession to M. Spaak.

Cricket. The last test match between England and New Zealand, at the Oval, London, ended in a draw.

Exploration. Otis Barton, an American explorer, descended 4,500 ft. in his "benthoscope" in the Pacific ocean off California.

17: **Belgium.** The House of Representatives passed a motion of confidence in the government of Gaston Eyskens by 125 votes to 64.

China. The nationalists admitted the loss of Foochow.

18: **Chile.** Emergency powers were granted to the government owing to serious rioting in Santiago.

Finland. Police opened fire in attempts to prevent disturbances between strikers and workers. Communist-controlled unions called strikes in many industries

Jordan. King Abdullah of Jordan arrived in London as a guest of the British government.

Soviet Union. A further note was sent to the government of Yugoslavia The note stated that the Soviet Union might have to resort to more effective measures to protect Soviet citizens in Yugoslavia.

United States. The House of Representatives voted to cut by half the £290,242,500 arms programme.

Golf. R. Burton won a professional tournament at Brighton, Sussex, with an aggregate of 266 for 72 holes—the lowest in a major tournament in Britain.

Shipping. Stanley and Colin Smith of Yarmouth, Isle of Wight, landed at Dartmouth, Devon, after crossing the Atlantic in a 20-ft. yacht in 43 days.

20: **Peru.** The government broke off diplomatic relations with Cuba.

Golf. The United States retained the Walker cup by ten matches to two at Winged Foot, New York.

21: **Great Britain.** Seven depots in the northeastern region of British railways were affected by a resumption of Sunday strikes against lodging turns

France. Forest fires in the Landes, south of Bordeaux, caused more than 70 deaths. About 112,000 ac. of forest land was devastated.

Western Germany. The Christian Democrat and Christian Socialist parties decided not to invite the Socialists to join a coalition government.

22: **Great Britain.** Sixty-eight pits were idle owing to a strike by colliery winding enginemen in Yorkshire and Lancashire.

23: **Netherlands.** Round-table talks on Indonesia opened at The Hague.

War Crimes. The trial of Field Marshal von Manstein opened in Hamburg.

Yugoslavia. The government in a note repudiating the charge of the Soviet Union's note of Aug. 18, offered to hand over to the Soviet government all Soviet citizens detained in Yugoslavia and to grant facilities for Soviet citizens to leave the country if they wished to do so.

Disasters. An ammunition ship blew up in Takao harbour, Formosa, causing 500 casualties.

24: **Finland.** The trade union federation expelled four unions and ordered the timber workers' union to call off its strikes.

North Atlantic Treaty The ratifications of treaty by Denmark, France Italy and Portugal were presented in Washington. As all the signatories to the treaty had then ratified it, it came into force.

Swimming. Philip Mickman, an 18-year-old Yorkshire schoolboy, swam across the English channel in 23 hr. 48 min., and was the youngest person ever to do so.

25: **France.** The Landes forest fires were considered as ended. 83 bodies were recovered.

26: **Albania.** A committee for free Albania was formed in Paris.

Argentina. The Chamber of Deputies, by 96 votes to 28, approved the trade agreement with Great Britain.

China. Communist forces entered Lanchow.

27: **Bolivia.** A military revolt broke out in four cities. The rebels were led by dismissed army officers and members of the Bolivian National Revolutionary movement.

Eastern Europe. The Council for Mutual Economic Aid concluded a meeting in Sofia "Current questions were discussed and the necessary decisions taken."

28: **Burma.** The Karen rebels occupied Lashio.

China. The Communist radio in Peking announced that a Manchurian people's government had been created in Mukden.

Scandinavia. The ministers for social affairs of Denmark, Norway, Sweden, Iceland and Finland concluded a three-day meeting in Oslo They signed a convention providing for national old-age pensions to be payable in any one of the five countries after five years' residence.

29: **Cricket.** Yorkshire beat Glamorgan, and having obtained 192 points in the county cricket championship, shared the championship with Middlesex.

30: **Burma.** The Sawbwa of Nawngpalang state was assassinated by Karen rebels at Nawngpalang.

Greece. The army captured the heights of Steno, Golio and Kamenik in the Grammos mountains, closing the last escape routes into Albania.

31: **Great Britain.** The 111th annual meeting of the British Association for the Advancement of Science opened in Newcastle under the presidency of Sir John Russell.

Bolivia. Government forces re-entered Cochabama, the rebels' main stronghold.

O.E.E.C. The council unanimously accepted the revised figures for the allocation of aid for 1949-50. Britain's allocation was increased to $962 million from $840 million.

Western Germany. Workers at Oberhausen carried out a planned operation against the dismantling of the Ruhr Chemie works.

SEPTEMBER

1: **Council of Foreign Ministers.** The time limit for the deputies' talks on the Austrian peace treaty expired with nine articles still outstanding.

Hungary. The rationing of bread was ended.

South Africa. An African was shot dead in Johannesburg when Africans rioted after the raising of tram fares to native areas.

2: **Aden.** Royal Air Force planes "took action" against a fort near Naad Mirgad near the Aden-Yemen border

China. A fire in Chungking caused the loss of more than 1,000 lives

France. Ministers of the Saar government, headed by Johannes Hoffmann, were received in Paris by Robert Schuman.

3: **Japan.** Malcolm MacDonald, British high commissioner in southeast Asia, arrived in Tokyo

Swimming. Fernand Du Moulin, of Liège, succeeded in crossing the English Channel after swimming for 22 hr.

4: **China.** The governor of Yunnan, General Lu Han, declared the independence of the province

India Pandit Nehru, speaking at Allahabad, said he was surprised at the intervention of President Truman and Clement Attlee in the Kashmir dispute.

Aviation. The Bristol Brabazon flew for the first time and remained airborne for 27 min.

5: **Canada** Sir Leonard Cecil Outerbridge succeeded Sir Albert Joseph Walsh as lieutenant governor of Newfoundland.

Jordan. King Abdullah of Jordan arrived at Corunna and was met by General Franco

Western Germany. Dismantling of the Ruhr Chemie plant began; 500 British troops were on the premises.

6: **United Kingdom.** The T U C approved the withdrawal from the World Federation of Trade Unions by 6,258,000 votes to 1,017,000.

Finland. Seven trade unions were expelled by the trade union federation.

Thailand The engagement of King Phumiphon Adundet to Sirikit Kitiyakara, daughter of the Thai ambassador in London, was announced.

United Nations. A conference on the conservation and utilization of the world's natural resources ended at Lake Success.

7: **Great Britain.** The first annual report of the British Transport commission was published. In 1948 there was a net deficit of £4,732,824.

Ernest Bevin and Sir Stafford Cripps arrived in Washington for financial talks with the United States and Canadian governments

Australia. Joseph Chifley, in presenting his budget to the House of Representatives, announced that Australia would make a further gift of £A10 million to Britain.

Western Germany. The federal parliament met for the first time in Bonn. K. Arnold, prime minister of North Rhine-Westphalia, was elected speaker of the Bundesrat. A. E. Kohler was elected speaker of the Bundestag.

Swimming. A relay team of six Egyptians swam the Channel from England to France, in 11 hr. 11 min.

8: **Canada.** The fourth unofficial Commonwealth Relations conference opened at Brewin Inn, Ontario.

China. Sining was captured by the Communists.

Council of Europe. By 65 votes to 1 the assembly adopted a proposed convention for the collective guarantee of human rights.

United States. The Export-Import bank announced that it was making grants to Yugoslavia and to Israel.

9: **Bechuanaland.** Seretse Khama, chief designate of Bamangwato, failed in a court action to prevent his uncle, Chief Tshekedi, taking into exile cattle and property inherited from a former ruler.

Council of Europe. The first session of the assembly ended.

10: **Hungary.** The indictment against László Rajk, former minister of the interior, was published. He was charged with conspiring, with Yugoslav help, to overthrow the Hungarian government.

Japan. It was officially announced that the atomic bomb which fell on Nagasaki in Aug. 1945 caused 73,844 deaths.

Paraguay. Dr. Molas López, president from Feb. 1949, resigned after the government party withdrew its support. Dr. Federico Chavez, foreign minister, was appointed interim president.

11: **Ceylon.** It was announced that Lord Caithness would be the first commander in chief of the Ceylon army.

Switzerland. A national referendum was held. 281,961 persons voted against "a return to direct democracy." 272,359 persons voted in favour.

Yemen. It was announced that the government intended to place before the Security council a complaint that British planes had bombed Yemen territory.

12: **Israel.** A man pointed a gun at David Ben-Gurion, prime minister, in the gallery of the Knesset, but was prevented from firing it.

United States. The three-power talks on the dollar situation ended. A communiqué issued after the conference announced that agreement had been reached on a ten-point programme.

Western Germany. Dr. Theodor Heuss was elected president of the West German federal republic. He received 416 votes against 312 cast for Dr Kurt Schumacher.

13: **United Nations.** The Soviet Union exercised the veto seven times to prevent the admission to membership of Austria, Ceylon, Finland, Ireland, Italy, Jordan and Portugal.

International Bank. The annual meetings of the bank and the monetary fund opened in Washington.

14: **India.** The Constituent Assembly decided that the official language of India should be English to be displaced by Hindu in Devanagri script within 15 years.

Scandinavia. The foreign ministers ended a two-day meeting in Copenhagen and issued an official announcement emphasizing their concord on a number of points on the agenda of the U.N. general assembly.

15: **Burma.** Government troops re-occupied Madeya.
U.N.E.S.C.O. Israel and Pakistan joined the organization.
Western Germany. Konrad Adenauer was elected chancellor by the Bundestag.

16: **Argentina.** The Chamber of Deputies passed by 72 votes to 22 a bill withdrawing gold backing from the peso.
Hungary. The trial of László Rajk and seven others opened in Budapest.

17: **North Atlantic Treaty.** The first meeting of the council was held in Washington. The council established a defence committee consisting of defence ministers of member countries.
Shipping. The Great Lakes steamer "Noronic" was destroyed by fire in Toronto docks. More than 200 persons lost their lives.
Golf. United States retained the Ryder Cup by beating Great Britain by 7 matches to 5 at Ganton, Yorkshire.

18: **Cyrenaica.** The Emir enacted a constitution for Cyrenaica.
Exchange Rates. Sir Stafford Cripps announced in a broadcast that the British government had decided to devalue the pound by 30%. The governments of Australia, Ceylon, Denmark, Egypt, India, Ireland, Israel, New Zealand, Norway and South Africa announced similar action.
Swimming. The English Channel was swum three times. Hassan Abderrehim (Egypt) swam from England to France in 15 hr. 46 min. Marie Hassan Hamad (Egypt) swam from France to England in 15 hr. 22 min. and Zannos Zirganos (Greece) in 18 hr. 30 min.

19: **China.** General Yang Chieh, former ambassador to Moscow, was assassinated.
Exchange Rates The governments of Burma, Canada, Finland, Iceland, France and Sweden followed the action of the British government by devaluing their currencies.
Malta. At the end of a seven-day debate the Legislative Assembly passed a vote of confidence in Dr. Paul Boffa by 24 votes to 7.
U.N.E.S.C.O. The 4th session of the general conference opened in Paris. E. Ronald Walker of Australia was elected president.

20: **Ceylon.** The House of Representatives passed a bill to sever the link between the Ceylon rupee and the Indian rupee.
China. General Tung Chi-wu, governor of Suiyuan province was reported to have gone over to the Communists
Exchange Rates. Greece and the Netherlands decided to devalue their currencies. Austria, Brazil, Iran, Japan, Pakistan and Poland decided not to devalue.
Germany. Dr. Adenauer announced the composition of his cabinet. Nine Christian Democrats were included.
Syria. Britain, France, Belgium, Iran and the United States granted recognition to the new government.
United Nations. The fourth general assembly opened at Flushing Meadow, New York. General Carlos Romulo, Philippines, was elected president by 53 votes to 5. Lester Pearson, Canada, was elected chairman of the political committee.

21: **China.** Mao Tse-tung announced the establishment in Peking of a people's republic of China.
Exchange Rates. The governments of Belgium, Iraq, Luxembourg and Portugal devalued their currencies. The West German government submitted plans for devaluation to the allied financial advisers.
Western Germany. The military government of Western Germany ended and the allied high commission took over.

22: **Exchange Rates.** The Jordanian pound was devalued in line with sterling.
United States. The Senate approved by 55 votes to 24 the military assistance programme for the North Atlantic treaty signatories and other countries. The bill authorized an expenditure of $1,314,010,000.

23: **Atomic Energy.** The governments of Britain, Canada and the United States announced that an atomic explosion had occurred in the Soviet Union.
Council of Foreign Ministers. The deputies of the foreign ministers resumed discussions in New York on the Austrian treaty.
Japan. Most of the restrictions on friendly relations between the U.S occupation forces and Japanese citizens were lifted

24: **Hungary.** László Rajk was found guilty and sentenced to death. Two other defendants were also sentenced to death

26: **Great Britain.** The government announced its intention of discontinuing the bulk purchase of tin.
India. The Madras government declared the Communist party of India unlawful in the province.
United Nations. Ernest Bevin, British foreign secretary, in a speech before the general assembly, called on the Soviet Union to join in an effective system of international control of atomic energy.

27: **Great Britain.** Both houses of parliament re-assembled to debate the government's policy of devaluation. Sir Stafford Cripps moved a motion of confidence in the government's policy.
China. It was announced that Peking was to be the capital of Communist China.
Soviet Union. The government sent a note to the Yugoslav government in which it denounced its treaty of friendship and mutual assistance with Yugoslavia which had been signed in 1945.

28: **Great Britain.** The opposition in the House of Lords carried, by 93 votes to 24, an amendment criticizing the government's financial policy.
Great Britain-Czechoslovakia. Three trade and financial agreements were signed.
United States. The Mutual Defence Assistance act was passed by congress.

29: **Great Britain** The conservative amendment of no confidence was defeated by 350 votes to 212, and the government's original motion carried by 342 votes to 5.
The Earl of Harewood, son of Princess Royal and nephew of the King, was married in London to Marion Stein.
The Board of Trade announced the lifting of import licences for many goods from soft currency countries.
International Bank. The bank granted a loan of $10 million to India for the purchase of agricultural machinery.
United States. The foreign economic assistance programme was approved by the Senate.
Western Germany. A new exchange rate of 23·8 U.S. cents to the mark was announced by the government.

30: **China.** Mao Tse-tung was elected chairman of the central people's government of the people's republic of China.
Western Germany. The Bundestag at Bonn called for a halt in the dismantling of works in Western Germany and set up a committee to consider the site of the capital of Western Germany. It also resolved that Berlin should be treated as the twelfth *Land*
Yugoslavia. The governments of Poland and Hungary denounced their treaties of friendship with Yugoslavia.

OCTOBER

1: **Soviet Union.** The government protested to Britain, France and the United States against the formation of the West German state.
Western Germany. The last U.S. aircraft flying in the air lift landed in Berlin.
Yugoslavia. The governments of Bulgaria and Rumania denounced their treaties of friendship with Yugoslavia.

2: **Austria.** Food rationing in restaurants ended.
Soviet Union. The government granted recognition to the Chinese people's republic and broke off relations with the nationalist government.
Uruguay. The Senate approved a bill for the purchase of the British-owned Montevideo waterworks.

3: **Bulgaria.** The government denounced its 1947 frontier convention with Yugoslavia.
China. The people's republic was recognized by Rumania and Bulgaria.
Shipping. The findings of the inquiry into the loss of the "Magdalena," which was wrecked near Rio de Janeiro in April were announced. Captain D. R. Lee was guilty of "grave dereliction of duty" and his certificate was suspended for two years.

4: **Great Britain.** Sir Stafford Cripps, speaking in London, announced that in the third quarter of 1949 Britain's gold reserves had dropped from £406 million on June 30 to £351 million on Sept. 30.
China. The people's republic was recognized by Czechoslovakia, Hungary and Poland.
Israel. The cabinet decided to unite the cities of Jaffa and Tel Aviv under the name of Jaffa-Tel Aviv.
Paraguay. The government declared a state of siege as a result of subversive activities aimed at the setting-up of a terrorist regime.
Yugoslavia. The government of Czechoslovakia denounced its treaty of friendship with Yugoslavia.

5: **Benelux.** A draft agreement to bring the provisional economic union into force from Oct. 1 was initialled at The Hague.

China. The people's republic was recognized by Yugoslavia.

Eastern Germany. The executive committee of the people's council in the Soviet zone decided that the council should declare itself a "provisional house of the people" as a first step to setting up a government.

France. Henri Queuille offered his resignation to President Auriol after disagreement in the cabinet on measures affecting wages and prices.

North Atlantic Treaty. The first meeting of the defence committee was held in Washington.

6: **Great Britain.** Aneurin Bevan, minister of health, reviewed the first year's working of the national health service. He described the results as remarkably good.

France. President Auriol accepted the resignation of Henri Queuille.

Western Germany. The last British plane to carry supplies in the Berlin air lift arrived in Berlin.

7: **Eastern Germany.** The people's council meeting in Berlin proclaimed the Democratic People's republic and constituted itself into the provisional lower house of the republic. Johannes Dieckmann, Liberal Democrat, was elected speaker The Socialist Unity party nominated Otto Grotewohl as prime minister.

8: **France.** Jules Moch, Socialist, was asked by the president to try to form a government.

Malaya. The foundation ceremony of the University of Malaya was held in Singapore

Western Union. The cultural committee of the Brussels treaty powers, which ended a three-day meeting in Brussels, adopted a proposal for a cultural identity card.

9: **Austria.** General elections were held. The People's party obtained 44 2% of the votes.

China. The people's republic was recognized by Mongolia.

Malta. Dr. P. Boffa leader of the Labour party, was censured by 244 votes to 141 at a conference of the party.

10: **Eastern Germany.** General V. Chuykov, Soviet governor, announced that the Soviet administration would hand over its duties to the provisional government.

Norway. Elections were held for the Storting. The Labour party increased its majority over all other parties, winning 85 seats out of 150.

11: **Eastern Germany.** Wilhelm Pieck was elected president of the people's republic.

India. Pandit Nehru, prime minister of India, arrived in Washington on an official visit.

12: **Eastern Germany.** Otto Grotewohl announced his cabinet. The Socialist Unity party he'd seven portfolios in addition to the premiership.

13: **Great Britain.** The prime minister announced that he did not intend to advise the King to dissolve parliament in 1949.

China. The nationalist government left Canton for Chungking.

Malta. Dr. Boffa and Dr. A. Colombo, minister of finance, resigned from the Labour party.

14: **Great Britain.** The 70th annual conference of the National Union of Conservative and Unionist Associations ended in London.

Egypt. The mixed courts and consular courts closed down, their jurisdiction being transferred to Egyptian courts.

France. Jules Moch, Socialist, was elected prime minister with one vote over the constitutional majority of 310.

South Africa. General Smuts was relieved of his post as commander in chief of the Union defence forces.

United States Eleven leaders of the Communist party were found guilty of conspiring to advocate the overthrow of the United States government by force.

15. **China.** Communist advance troops entered Canton.

Hungary. Laszló Rajk, Tibor Szonyi and Andras Szalai were hanged in Budapest.

India. The government took over the administration of Manipur.

16: **Benelux.** A conference in Luxembourg of ministers of Belgium, Netherlands and Luxembourg ended.

Eastern Germany. Diplomatic relations were established with the Soviet Union.

17: **Australia.** W. J. McKell, governor general, inaugurated the Snowy river hydro-electric and irrigation scheme in a ceremony at Adaminaby.

L. Sharkey, general secretary of the Communist party, was sentenced to three years' imprisonment for sedition.

France. Jules Moch resigned as prime minister, having failed to form a government.

International Bank. Loans to Finland and Yugoslavia were approved.

South Africa An African regional scientific conference opened in Johannesburg.

18. **Great Britain.** Both houses of parliament re-assembled.

United Nations. A. Vyshinsky, Soviet foreign minister, held a press conference in New York, in which he said he could not regard an election of Yugoslavia to the Security council in succession of the Ukraine as either lawful or just.

General Carlos Romulo, president of the assembly, announced that the efforts of the Balkans conciliation committee had ended in deadlock.

19. **Eastern Germany.** The government was recognized by the governments of Bulgaria, Hungary and Poland.

Guatemala. It was announced that 4,000 people had lost their lives in recent floods. Damage to property was estimated at $50 million.

United States. Both houses of congress adjourned until Jan. 1950.

20: **Australia.** The House of Representatives passed a bill authorising a gift to Britain of £A10 million.

Denmark. The Folketing passed a vote of confidence in the government's economic programme by 64 votes to 35, with 39 abstentions.

France. René Mayer, Radical, was elected prime minister by the National Assembly by 341 votes to 183.

United Nations. Yugoslavia was elected to the Security council in place of the Ukraine. The Soviet Union announced that it did not consider Yugoslavia a representative of eastern Europe. Ecuador and India replaced Argentina and Canada.

21: **Germany.** Dr. Adenauer, in a speech to parliament, said that the West German government was the only one entitled to speak for the German people.

United Nations. The general assembly voted by 48 votes to 6 to continue the Korean commission.

22: **Spain.** General Franco arrived in Lisbon on a state visit.

23: **India.** Pandit Nehru arrived in Ottawa on a short visit.

France. René Mayer informed the president of his inability to form a government. Georges Bidault, M.R.P., was asked to try.

Iceland. The Conservative party remained the largest party in the parliament in a general election.

24: **Great Britain.** Clement Attlee announced in the House of Commons measures to curtail the risk of inflation resulting from devaluation. About £140 million was to be saved from capital expenditure. Housing, educational building and government expenditure on agriculture were to be reduced.

Bolivia. Mamerto Urriolagoitia was sworn in as president in succession to Enrique Hertzog who had resigned because of ill-health.

United Nations. President Truman laid the cornerstone of the United Nations secretariat building in New York.

United States. A conference of U.S. ambassadors and ministers to nine European countries opened in London.

25: **Great Britain-France.** A supplementary agreement on social security was signed in London.

Germany. The East German government was recognized by the Chinese Communist government.

Czechoslovakia. Alexei Čepička, minister of justice, was named head of the new state office to control Church affairs.

Iran. It became known that the Shah had instructed that the country should be known in future as Persia and not as Iran.

Aviation. A British de Havilland Comet, the world's first jet air-liner, flew from London to Castel Benito, Tripoli, and back in 6 hr. 38 min. flying time.

26: **Germany.** Bishop Aloisius Münch was appointed Papal Nuncio to the Western German government.

Gold Coast. The report of the Committee on Constitutional Reform was published. It recommended almost complete home rule for the colony.

27: **Great Britain.** A two-day debate on the government's economy measures ended. A Conservative amendment was defeated by 353 to 222 and the government's action approved by 337 to 5.

Belgium. The Senate approved, by 109 votes to 65, a bill for a referendum on the return of King Leopold.

Canada. The House of Commons passed, by 139 votes to 38, a resolution under which the King would be petitioned to invite the British parliament to allow Canada to amend its own constitution.

Guatemala. The government suspended constitutional guarantees for 30 days, giving as its reason the emergency created by disastrous floods.

28: **France.** Georges Bidault, M.R P., was elected prime minister by 367 votes to 183. He immediately announced the formation of his cabinet.

United States. President Truman signed the $1,314 million Military Aid bill.

Aviation. An Air France Constellation crashed in the Azores. Among the 48 persons killed were Marcel Cerdan, boxer, and Ginette Neveu, violinist.

29: **International Refugee Organization.** It was agreed to pay the government of Israel $2,500,000 for the care of aged, sick and disabled Jewish refugees.

30: **Arab League.** The council of the league at a meeting in Cairo decided to set up a committee to draft a security pact between the member states.

31: **Great Britain.** The House of Commons, by 333 votes to 196, passed for the third time the Parliament bill which reduced the power of veto of the House of Lords.

It was announced that British troops would be withdrawn from Greece.

Italy. The right-wing Socialist party decided to resign from the coalition government.

O.E.E.C. The council met in Paris. Western Germany was represented for the first time by a German. Paul Hoffmann, E.C.A. administrator, called on the member nations to prepare a programme to bring about the economic integration of western Europe.

NOVEMBER

1: **Czechoslovakia.** The new church law became operative.

2: **Jamaica.** The government announced that it had decided to withdraw its press bill, which would have imposed severe penalties on the disclosure of government information.

Netherlands. Dutch, Indonesian and United Nations delegates signed a resolution agreeing to a draft constitution for a United States of Indonesia at the round table conference at The Hague.

O.E.E.C. The council passed a resolution recommending various measures to free European trade.

Singapore. A conference of British representatives in the far east opened in Singapore.

3: **Great Britain.** The government was defeated in the House of Lords by 116 votes to 29 on a Conservative amendment criticizing the government's economic policy.

Council of Europe. The committee of ministers met in Paris to discuss the recommendations of the consultative assembly. It decided not to make any change in the status of the assembly.

Egypt. The coalition government resigned. Hussein Sirry Pasha, the outgoing prime minister, formed a non-party government.

Netherlands. Rationing restrictions were removed on textiles, meat, cheese and rice.

Western Germany. By 200 votes to 176, the Bundestag decided to retain Bonn as the federal capital.

4: **China.** The British government warned the Chinese Nationalist government of the consequences incurred if the Chinese carried out an order to bomb foreign ships in territorial waters bound for Communist ports.

Council of Europe. The committee of ministers decided in favour of admitting Western Germany and the Saar as associate members. The committee requested the opinion of the assembly's standing committee.

Persia. Abdol Hossein Hajir, former prime minister, was shot in Tehran. He died from his wounds on Nov. 5.

5: **Council of Europe.** The committee of ministers ended its meeting.

Hungary. The frontier agreement with Yugoslavia was cancelled.

6: **Syria.** Lieutenant Colonel W. F. Stirling, Damascus correspondent of *The Times*, was shot at and seriously wounded.

7. **Austria.** Leopold Figl formed a new government, The Ministries of Food, Power and Economic Planning were abolished.

Egypt. King Farouk signed a decree dissolving parliament.

Iraq. Nuri Pasha as-Said, prime minister from Jan. 1949, offered his resignation to the Regent.

Pakistan. The Sind cabinet resigned. The outgoing premier, Yusef Abdullah Haroon, formed a new government.

Soviet Union. Moscow radio announced that Marshal Konstantin Rokossovsky had been placed at the disposal of the Polish government. He replaced Marshal Michał Zymierski as Polish minister for defence.

Western Union. The seventh session of the consultative council of the Brussels treaty powers was held in Paris. Conventions for social security and medical assistance were signed.

8: **France.** A treaty was signed with Cambodia giving her autonomy within the French union.

Norway. The British trawler "Welbeck" was arrested by a Norwegian corvette and taken to Hammerfest. The trawler was alleged to have been fishing in Norwegian waters.

Philippines. Elpidio Quirino was re-elected president with 1,711,448 votes, 400,000 more than José Laurel. More than 20 persons were killed and many injured.

United States. Herbert H. Lehman, Democrat, defeated John Foster Dulles, Republican, in an election in New York for the Senate.

9: **Council of Europe.** The standing committee of the assembly ended a three-day meeting in Paris. It approved in principle the admission of the Saar and Western Germany.

Eastern Germany. The Volkskammer approved an amnesty to many classes of prisoners, specially exempting political prisoners.

10: **Czechoslovakia.** All religious publications and educational, financial and charitable activities of the churches were placed under the control of the Ministry of Church Affairs.

United Nations. In a speech before the special political committee A. Y. Vyshinsky, stated that the Soviet Union was using atomic energy for constructive purposes.

11: **Australia.** Talks ended in Canberra between Australia, Great Britain and New Zealand. Among subjects discussed was a peace treaty for Japan and a meeting of commonwealth foreign ministers.

Colombia. The government relaxed slightly a state of siege which had been imposed following disturbances.

France. A conference in Paris of the foreign ministers of Great Britain, France and the United States ended. Agreement was reached on measures for the progressive integration of the German people into the European community.

United States. President Truman accepted the resignation of the secretary of the interior, Julius A. Krug, and appointed Oscar L. Chapman to succeed him.

12: **West Indies.** A conference of governors of the West Indian colonies, presided over by the Earl of Listowel, ended in Barbados.

Yugoslavia. The government denounced its treaty of friendship and collaboration with Albania — the last Communist country to maintain its treaty with Yugoslavia.

13: **Danube.** Representatives of Bulgaria, Czechoslovakia, Hungary, Rumania, the U.S S R. and Yugoslavia met at Galatz for the first meeting of the Danube commission.

Portugal. All 120 seats in the National Assembly were filled by candidates of the national union party in a general election.

14: **United States.** More than 425,000 steel workers returned to work after a six-week strike.

15: **Great Britain.** The government published amended dates for the operation of the Iron and Steel bill It postponed the vesting day of the industry until after the last possible date for a general election.

Australia. Petrol rationing was re-imposed throughout the Commonwealth.

Danube. Notes declaring that they would not recognize the Danube convention were delivered by Great Britain, France and the United States to the signatories of the convention.

India. Nathuram Godse and Narayan Apte, who in Jan. 1948 murdered Mahatma Gandhi, were hanged at Ambala.

Western Germany. The three high commissioners received Dr. Adenauer and informed him of the decisions of the foreign ministers' conference in Paris.

16: **Great Britain.** Officers and ratings of H.M. ships "Amethyst," "London," "Black Swan" and "Consort" marched through London and were received at the Guildhall.

United Nations. The general assembly agreed unanimously to launch a programme of technical aid to backward areas.

17: **Czechoslovakia.** Jaromir Dolanský, minister of planning, stated that 97% of the country's industry was nationalized.

18: **Nigeria.** Disturbances occurred in the Enugu area, where 1,500 miners were on strike. 18 men were killed by police fire.

United Nations. The general assembly, by 50 votes to 6, decided to continue in being the Balkans commission.

19: **Great Britain.** A. J. Wakefield and J. N. Rosa were dismissed from the board of the Overseas Food corporation.

20: **Great Britain.** Princess Elizabeth flew to Malta.

France. At the Radical party conference at Toulouse, Edouard Herriot was re-elected chairman by 759 votes to 381 for Edouard Daladier.

Panama. President Daniel Chanis resigned after unsuccessfully trying to force the resignations of three police chiefs He was succeeded by Roberto F. Chiari, the vice president.

21: **Great Britain.** It was announced that President and Mme. Vincent Auriol would pay a state visit to London in March 1950.

The House of Commons debated the report on the East African groundnuts scheme. An opposition amendment calling for an inquiry was defeated by 161 votes to 315.

United Nations. The general assembly decided that Libya should be an independent nation by 1952 and that Italian Somaliland should be placed under Italian trusteeship for 10 years

22: **United Nations.** By 42 votes to 5, the general assembly asked the permanent members of the Security council to refrain from using the veto on the admission of new members.

Panama. Dr. D. Chanis tore up his resignation and was re-instated as president.

Western Germany. The three high commissioners met Dr. Adenauer and reached agreement on the implementation of decisions made in Paris by the foreign ministers.

23: **Great Britain.** The report was published of the Ministry of Civil Aviation's investigation into the crash of a K.L.M. plane at Prestwick, Oct. 1948. Correspondence was also published between T. P. McDonald, who presided over the inquiry, and the minister of civil aviation, Lord Pakenham, who felt unable to accept certain implications in the report.

United Nations. The general assembly, by 49 votes to 5, called upon the permanent members of the Atomic Energy commission to continue discussions on the international control of atomic energy.

United States-Uruguay. A treaty of friendship, economic development and commerce was signed in Montevideo.

Western Union. The defence committee met in London.

24: **Great Britain.** The House of Lords accepted the government's amendments for the vesting date of the Iron and Steel industry. The bill was passed and received the Royal Assent.

India. The Nizam of Hyderabad issued a firman announcing the accession of Hyderabad to India.

Panama. The supreme court ruled that Dr. Chanis was constitutional president. Dr. Arnulfo Arias, a former president, was nevertheless installed by the police chiefs.

25: **France.** A 24-hr. general strike called by the C.G.T. and Force Ouvrière was held throughout the country.

Pakistan. The first International Islamic industrial and commercial exhibition and the International Islamic Economic conference opened in Karachi.

Panama. The electoral grand jury announced that Dr. Arias had won the 1948 presidential election. He announced the members of his cabinet.

26 **France.** The National Assembly approved Robert Schuman's German policy by 327 votes to 249 in the early hours of the morning.

India. The Constituent Assembly adopted the new constitution Sardar Patel, deputy prime minister, announced that the integration of the States was complete.

Nigeria. The governor declared a state of emergency following disorders at Aba and at Port Harcourt and labour troubles at the Enugu colliery.

Panama. President Chanis and two other former presidents fled to the Canal zone

27· **Colombia.** Because of a boycott by the Liberals, there was only one candidate, the Conservative Laureano Gómez, in a presidential election. He received more than 965,000 votes

Nigeria. The governor set up a commission of inquiry to investigate the disorders in the country.

28: **Great Britain.** The minister of transport announced that the Transport commission was expecting a deficit of £20 million in 1949 and had asked for increases in freight and other charges.

A three-day conference of the British Communist party ended at Liverpool.

Trade Unions. An international trade union conference opened in London. Paul Finet, Belgium, was elected chairman and Vincent Tewson, Great Britain, secretary.

29: **Great Britain.** The House of Lords rejected the Parliament bill for the third time.

Cominform. It was announced that the first full meeting of the Cominform since June 1948 had been held in Hungary. Three resolutions were published on the defence of peace, on the Yugoslav Communist party and on unity in the working class movement.

F.A.O. The conference decided by 30 votes to 28 that the permanent headquarters should be in Rome

International Trade. Ceylon, India and South Africa signed the Annecy protocol.

North Atlantic Treaty. The military committee met in Paris.

30: **China.** Chungking was occupied by Communist forces.

New Zealand. The Labour government was defeated in a general election. The National party led by S. G. Holland obtained 46 seats, the Labour party 34.

DECEMBER

1: **China.** A trade union conference of Asian and Australasian countries ended in Peking.

India. The World Pacifist's conference opened at Shantiniketan, 83 pacifists were present from 35 countries.

North Atlantic Treaty. The defence committee met in Paris and agreed on an integrated self-defence plan designed for "adequate military strength accompanied by economy of resources and manpower."

United Nations. A British-United States resolution entitled "The Essentials of Peace" was passed by 53 votes to 5 by the general assembly. A Soviet proposal was defeated.

Yugoslavia. The trial opened in Sarajevo of 11 Soviet citizens on charges of espionage.

2 **United Nations.** Despite objections by Great Britain, Belgium and France, the general assembly approved by large majorities ten resolutions providing for continuing United Nations' investigation and review of conditions in all colonies.

Western Germany. Dr. Kurt Schumacher returned to his seat in the Bundestag after agreement had been reached with Dr. Konrad Adenauer. He had been suspended on Nov. 25.

3: **Sarawak.** Duncan Stewart, governor of Sarawak, was stabbed and wounded by a young Malay at Sibu and was flown to Singapore for medical treatment next day.

4: **France.** Petrol and diesel oil were taken off the ration.

5: **China.** General Li Tsung-jen, acting Nationalist president, left Hong Kong by air for the United States.

Pakistan. The International Islamic Economic conference decided to create a permanent organization with headquarters at Karachi. Ghulam Mohammed, Pakistan, was elected president.

Atomic Energy. The cyclotron at Harwell, Berkshire, operated successfully on its first trial.

6: **United Nations.** The general assembly decided by 40 votes to 7 to ask the International Court of Justice to rule on the legal status of the former mandated territory of South-West Africa.

7: **Great Britain.** Representatives of the crews and staffs of the Berlin airlift were inspected at Buckingham palace by the King.

Bulgaria. The trial of Traicho Kostov, former deputy prime minister, and 10 other communists opened in Sofia. Kostov pleaded not guilty to charges of espionage and treason.

Trade Unions. The International Confederation of Free Trade Unions (I.C.F.T.U.) was founded in London. J. H. Oldenbroek, Netherlands, was elected general secretary with headquarters in Brussels.

United Nations. The special political committee of the general assembly agreed by 35 votes to 13, with 11 abstentions, on a complete international regime for Jerusalem.

8: **Great Britain.** The Labour party retained its seat in a by-election at south Bradford with a reduced majority.

Sir Gerald Kelly was elected president of the Royal Academy in succession to Sir Alfred Munnings.

Nigeria. The state of emergency proclaimed on Nov. 26 was ended.

Red Cross. Representatives of 29 countries signed four conventions at Geneva.

United Nations. The general assembly, by 45 votes to 5, affirmed the right of the Chinese to be free from foreign domination and urged all nations to refrain from seeking spheres of influence in China.

9: **Netherlands.** At 2 a.m. the Second Chamber passed the bill for the ratification of the Indonesian agreements by 71 votes to 29.

United Nations. The general assembly voted in favour of the internationalization of Jerusalem and the Holy Places.

Yugoslavia. The 10 defendants in the spy trial at Sarajevo were found guilty. Sentences were passed varying from 4 to 20 years' imprisonment.

10: **Australia.** The Labour government was defeated in the general election. A coalition of the Liberal party, led by R. G. Menzies, and the Country party obtained 74 seats, the Labour party 47.

China. General Lu Han, governor of Yunnan, announced his support of the Communist government.

Sarawak. Duncan Stewart, governor of Sarawak, who was stabbed at Sibu on Dec. 3, died in hospital at Singapore.

Sierra Leone. Sir John Lucie-Smith, chief justice, was shot at and wounded while asleep in his house at Freetown.

United Nations. The fourth general assembly ended. Adrian Pelt was elected U.N. commissioner in Libya.

11: **Great Britain.** John Strachey, minister of food, left by air on an unexpected visit to groundnut areas in Tanganyika.

12: **Great Britain.** Manual workers at three London electric power stations went on strike. Servicemen were called in to keep the stations going.

Canada. The British Columbian Legislative Assembly elected Mrs. Nancy Hodges as its speaker. She became the first woman speaker in the Commonwealth.

South Africa. Dr. D. F. Malan, prime minister, and N. C. Havenga, leader of the Afrikaner party, announced that they would not introduce Apartheid legislation during the coming session of Parliament.

13: **Eritrea.** A curfew was imposed in Asmara after disturbances. All Italian and Eritrean newspapers were suspended.

Israel. David Ben-Gurion, prime minister, announced that the Knesset would move to Jerusalem on Dec. 26.

New Zealand. The National government led by S. G. Holland was sworn in by the governor general.

Syria. Hashem Atassi, prime minister, submitted the resignation of his government to the president of the assembly.

14: **Bulgaria.** Traicho Kostov was found guilty and sentenced to death in a trial at Sofia. Six others were sentenced to life imprisonment and five others received sentences of 8 to 15 years.

Council of Foreign Ministers. At their 243rd meeting the deputies of the foreign ministers discussing a peace treaty for Austria adjourned until Jan. 9, 1950.

United Nations. The Soviet Union twice used the veto in the Security council on motions welcoming the report of the Netherlands-Indonesian agreement reached at The Hague.

15: **International Court of Justice.** By 12 votes to 2 (Soviet Union and Albania) the court awarded damages to Great Britain of £843,947 against Albania for the mining of two British destroyers in the Corfu channel on Oct. 22, 1946.

Switzerland. The Federal Assembly elected Max Petitpierre as president of the confederation for 1950.

16: **Great Britain.** Parliament was prorogued at the end of a session lasting nearly 14 months.

Bulgaria. Traicho Kostov was executed.

China. Mao Tse-tung, chairman of the central people's government of the Chinese People's republic, arrived in Moscow.

Indonesia. Dr. A. Sukarno was unanimously elected first president of the United States of Indonesia.

South Africa. The Voortrekker monument was inaugurated at Pretoria.

17: **Burma.** The government announced its recognition of the Communist government in China.

Sweden. Talks in Stockholm on closer economic collaboration between Great Britain, Denmark, Norway and Sweden were ended.

Radio. Great Britain's second television transmitter, at Sutton Coldfield, was brought into service. It was the most powerful television station in the world.

18: **Bulgaria.** A general election was held for the National Assembly; 97 66% of the electorate voted for the single list of candidates.

Iraq. Martial law, imposed in May 1948, was rescinded by royal decree.

19: **Australia.** The government of R. G. Menzies was sworn in at Canberra.

Greece. The railway service between Athens and Salonika was opened for the first time for nine years.

Syria. The third military *coup d'état* within nine months occurred. General Sami Hinnawi was arrested.

United States. It was announced in Washington that Canada, Great Britain and the United States had signed an agreement providing for collaboration in military standardization of the three armed forces.

War Crimes. Field Marshal von Manstein was found guilty of nine war crimes and was sentenced at Hamburg to 18 years' imprisonment.

20: **Jamaica.** The Labour party, led by W. A. Bustamante, obtained 17 seats out of 32 in the House of Representatives. The People's National party, led by N. Manley, obtained 13 seats.

21: **Netherlands.** The First Chamber approved by 34 votes to 15 the bill concerning the transfer of sovereignty in Indonesia.

Soviet Union. Marshal Joseph Stalin celebrated his seventieth birthday. Large scale celebrations were held throughout the Soviet Union and in all the Communist countries.

Western Union. Representatives of the Western Union powers signed in London a multilateral agreement laying down the status of the armed forces of any one member state when stationed in the territory of any of the five states.

22: **Malaya.** Sir Henry Gurney, high commissioner, announced the government's intention to mobilize early in 1950, on a voluntary basis and for about a month, all civilian resources in the federation to co-operate with the forces during an intensified operation against the bandits.

23: **Great Britain.** It was announced that Britain had broken off trade negotiations with Hungary because the Hungarian government would not permit a British representative in Budapest to see a British subject who had been arrested.

Poland. A military court at Wroclaw found four French nationals and two Poles guilty of spying and imposed sentences of up to nine years.

Uruguay-Great Britain. A five-year meat agreement was signed in Montevideo.

24: **France.** The National Assembly gave a vote of confidence to the Bidault government by 303 votes to 297.

Palestine. For the first time for two years pilgrims walked along the road from Jerusalem to Bethlehem.

Roman Catholic Church. Pope Pius XII opened the holy door of St. Peter's at the beginning of the 25th Holy Year.

25: **Great Britain.** The King broadcast to the peoples of the Commonwealth.

26: **Great Britain-Yugoslavia.** A new five-year trade agreement was announced.

Dominican Republic. Congress granted President R. L. Trujillo power to declare war against any Caribbean nation that knowingly harboured persons plotting against the Dominican government.

Israel. The Knesset met in Jerusalem, having moved from Jaffa-Tel Aviv.

27: **Great Britain.** Ernest Bevin left London on the first stage of his journey to Ceylon for a conference of Commonwealth foreign ministers.

China. Communist forces captured Chengtu.

Indonesia. Queen Juliana signed the charter of the transfer of sovereignty to the Republic of the United States of Indonesia in The Hague, thus bringing into being the Netherlands-Indonesian union. Ceremonies were also held in Batavia (renamed Jakarta).

Syria. The parliament refused to accept the resignation of the president-elect Hashem Atassi submitted on Dec. 26 after the prime minister, Nazim el Kodsi, had resigned.

Physics. Albert Einstein announced a new theory—the generalized theory of gravitation—the result of 33 years' work.

28: **Hungary.** All industrial undertakings employing ten or more people were nationalized by a government decree.

Syria. Khaled Azam formed a cabinet.

30: **France.** The government received two votes of confidence during the assembly's discussion on the budget.

India. The government granted recognition to the Communist government of China.

Tibet. It became known that it was proposed to re-organize the cabinet and to send diplomatic representatives to Great Britain, China, India, Nepal and the United States.

Vietnam. At a ceremony at Saigon, Bao Dai and Léon Pignon signed a series of conventions implementing the agreement of March 1949.

31: **Indonesia.** The United States of Indonesia had been recognized by 18 countries.

BOOK OF THE YEAR

ABDULILAH IBN ALI, Regent of Iraq (b. Ta'if), Hejaz, 1914), son of Sharif Ali ibn Hussein who for a short time was king of Hejaz after the abdication in 1925 of his father King Hussein, Sharif of Mecca and head of the Hashimite family. King Ali also abdicated when driven out by the victorious Ibn Saud in Dec. 1925. He went to live in Baghdad, where he died in 1934. Prince Abdulilah was educated at Victoria college, Alexandria. On the death of his cousin King Ghazi I in a motor accident, he was appointed Regent of Iraq on April 4, 1939, until in 1953 his nephew King Faysal II should attain his majority (at the age of 18). On the outbreak of World War II he sent a telegram to King George VI assuring him of the " unshakable attachment of the government and people of Iraq to the letter and spirit of the treaty of alliance with Great Britain." After the Rashid Ali coup d'état in April 1941, he had to flee the country; but returned to Baghdad with the British liberating force on June 1, 1941. He paid official visits to Great Britain (Nov. 1943), to the U.S. (April 1945) and to Turkey (Aug. 1945). In Arab politics he had supported the British alliance which had often been attacked by the Iraqi opposition; nevertheless he was forced by the pressure of public opinion to repudiate the treaty of alliance at Portsmouth on Jan. 15, 1948. Prince Abdulilah married in 1948 Faiza al-Tarabulsi, 22 year-old daughter of a retired Egyptian chief of police. He visited Great Britain with the Princess in July 1949 and was entertained by the King and Queen at Balmoral. (C. Ho.)

ABDULLAH IBN HUSSEIN, King of Jordan (b. Mecca, 1882), second son of King Hussein of Hejaz, was crowned on May 25, 1946. Of his marriage in 1904 to Emire Musbah, daughter of Emir Nazir ibn Ali, there were five children, including Emir Talal, the crown prince (b. Mecca, 1911). (For his early life see *Britannica Book of the Year 1949*).

On Aug. 7, 1949, at the conclusion of a 12 days' visit by King Abdullah to Iran, it was announced that the two countries had signed an agreement providing for collaboration in international problems. On Aug. 18 the king arrived in Great Britain on a 17 days' visit; on Aug. 23 he dined with Ernest Bevin and on Aug. 27 was entertained at luncheon by King George VI and Queen Elizabeth at Balmoral castle. When in London he declared to the correspondent of the Cairo newspaper *El Misri* that the creation of Greater Syria, uniting Syria, Iraq, Jordan and Arab Palestine under a Hashimite king, was an obvious necessity. On Sept. 5 he visited Spain for ten days.

ABYSSINIA: *see* ETHIOPIA.

ACCIDENTS. *Road Safety.* The principal road safety activity during 1949 was the organization of a national Pedestrian Crossing week from April 3–9, the aim being to focus the attention of all classes of road users on proper observance and use of crossings. Local authorities were asked by the Ministry of Transport to co-operate (Circular 626); 1,100 of them did so. They were urged to equip fully all pedestrian crossing places in time for the week and each



King Abdullah with Air Marshal Sir Basil Embry watching R.A.F. jet fighters at Odiham, Hampshire, Aug. 1949.

locality developed its own ideas. A new type of crossing, a " zebra " crossing, was tried in about a thousand places and a comparison of the use of these with crossings marked only by studs was made. Many novel publicity methods were used and the Royal Society for the Prevention of Accidents produced special propaganda material and suggested programmes for local efforts. In London, a Safe Conduct exhibition was held at Charing Cross underground station, opened on the first day by the minister of transport. Draft regulations on the use of road crossings based on the recommendations of the Committee on Road Safety were prepared by the minister of transport for laying before the house.

The National Safety congress was held in London from Oct. 4–7 and was attended by a thousand local authority delegates and a conference of road safety organizers from all over the country was also held in Harrogate, Yorkshire, during May.

The British section of the International Union of Local Authorities discussed road safety at its conference held at Leamington Spa, Warwickshire, in February. At a subsequent international conference in Geneva, Switzerland, in September, the union discussed a report on safety measures in different countries submitted by Sir Howard Roberts, clerk to the London County Council and chairman of the Ro.S.P.A's management committee.

TABLE I.—ACCIDENTAL DEATHS AND INJURIES IN THE HOME, ENGLAND AND WALES

	1946	1947
Falls and Crushing	3,779	4,001
Drowning	1,029	1,149
Burns, Scalds and Conflagrations	915	904
Suffocation	872	1,054
Others	1,288	1,482
Total	7,883	8,590

TABLE II —ACCIDENTAL DEATHS AND INJURIES IN GREAT BRITAIN

Killed

	1946	1947	1948
Railways	466	447	367
Roads	5,062	4,881	4,513
Coal Mines	543	618	467
Factories	826	839	861

Injured

	1946	1947	1948
Railways	31,712	30,113	29,701
Roads	157,484	161,318	148,884
Coal Mines	167,210	162,544	*
Factories	222,933	202,397	200,225

* Unavailable.

The total number of drivers entered in the Society's National Safe Driving competition was 200,000 and 138,596 awards were made during 1949. The War Office and the Air Ministry entered drivers.

Industrial Accident Prevention. A National Industrial Safety conference held in Scarborough, Yorkshire, in May was attended by 450 industrial delegates. Speakers included Sir Geoffrey King, deputy secretary of the Ministry of National Insurance, on the Industrial Injuries act. Regional industrial safety conferences were held in many provincial towns. A second Chemical Works Safety conference was held at Scarborough, Yorkshire, in October and a conference of London member firms was addressed by the minister of labour. Firms in Sheffield, Rotherham, Barnsley, Doncaster and Chesterfield, covering about 200,000 workers, co-operated in a Good Housekeeping week to draw attention to accidents due to untidiness in works.

The chief inspector of factories report for 1947 was published early in 1949. It showed that over 83% of all injuries reported were due to causes other than machinery. Another report likely to have considerable effect on safety work was published; viz., *Health, Welfare and Safety in the Non-Industrial Employment. A report by a Committee of Enquiry.* The report of the Factory department's electrical branch on *Electrical Accidents and their Causes—1947*, was also published.

The Ro.S.P.A. produced a new film *Your Dog and Mine* showing how dogs can be trained in road sense and another film *Calling all Motor-cyclists* was made in co-operation with the metropolitan police and editors of motor cycling papers. Static exhibitions, mobile cinemas and touring exhibitions visited many districts. The Ministry of Education published a pamphlet *Safety Precautions in Schools* explaining ways in which risks could be avoided in physical education, the laboratory, manual and handicraft work. During the year a joint committee of industrial and educational representatives was formed to discuss industrial safety training and guarding of machinery in technical schools. A leaflet on "Tubular Steel Scaffolding" was printed. Investigations by the society included tool handle breakages and the use of colour in industry.

A fourth and fifth volume in the series "I.C.I. Engineering Codes and Regulations (Safety Series)" were produced, entitled *Construction and Maintenance (Civil Engineering)* and *Docks, Wharves and Quays* respectively.

Home Accident Prevention. During the year the registrar general's review for 1946 was issued and revealed that 7,883 deaths occurred in the home and everyday pursuits, a slight decrease on previous years. The campaign against home accidents was intensified by a grant made to the Ro.S.P.A. by the Home Office for the provision of lectures, posters and leaflets for this purpose. At the Ideal Home exhibition a stand named "Hazard House" was taken by the Home Office Inter-departmental Committee on Home Accidents, and members of the Women's Voluntary services distributed the society's leaflets. (H. SU.)

United States. Accidents caused 98,000 deaths in the U.S. in 1948. This total was exceeded only by deaths from heart disease, cancer and cerebral hæmorrhage. Information available up till Oct. 1949 indicated that the 1949 accidental death total would probably drop 5% below 1948. In addition to the deaths, accidents in 1948 also caused about 10 million injuries.

Organized efforts to reduce accidents in the U.S. were led by the National Safety council and affiliated local safety councils throughout the nation. The National Safety council served as a place for group planning and execution by all who took part in the safety movement and it attempted to discover the facts of accident occurrence; to devise or assist in devising engineering, educational and enforcement measures for prevention; to assist in determining engineering requirements for the safe design, construction and use of machines and equipment; to help to draw up model safety legislation; to participate in planning and executing training and educational programmes; to disseminate this information widely to interested groups and to the general public; and to encourage and assist the establishment and activity of community and state safety organizations.

The President's Conference on Industrial Safety was held in March, when 1,500 representatives of management, labour, government and the public met in Washington, D.C., to consider committee reports and develop plans for the reduction of the industrial accident toll.

It appeared, late in 1949, that the year's toll of occupational accident fatalities might be reduced by as much as 6% from the 1948 toll of 16,500.

As the year 1949 drew to a close, it appeared that the number of traffic accident deaths might drop 500 below the 1948 figure of 32,000. This apparent reduction was in the face of an approximate 6% increase in motor vehicle travel. In June 1949 the President's Highway Safety conference met for the third time in Washington, with about 3,000 of the nation's traffic safety leaders in attendance.

In 1949, 23 states had State Farm Safety committees, and 11 states had a full-time farm safety specialist, working through many public and private agencies to spread information on the seriousness of the farm accident problem and on ways and means of meeting it. The president of the United States, for the sixth successive year, proclaimed a National Farm Safety week in July 1949, which focused attention on the problem of rural accidents.

Among children of 1 to 14 years of age accidents were responsible for more deaths than the next six death causes combined. Even so, the accidental death rate among children under 14 had dropped about 40% in the last 40 years. School authorities showed increasing recognition during 1949 of the importance of safety education in the classroom, in shops and elsewhere in school life. A specialized feature of school safety work had been the driver training programmes instituted in many high schools throughout the nation. Studies had shown that students who had had this training were involved in fewer accidents than those who had not.

The 1948 toll of deaths in home accidents was 35,000, which was greater than in any other type of accident. Reports

covering 10 months of 1949 indicated that home fatalities would again lead the list, although a reduction of about 6% on 1948 seemed probable. Local and state health departments gave increased attention to accident prevention work, concentrating on home safety. Women's clubs and other organizations and agencies attracting the support and interest of homemakers showed an increasing tendency to include safety in the home as a regular programme activity. During 1949 about 50 out of the several hundred local and state safety organizations throughout the country qualified for acceptance as chapters of the National Safety council. The 37th National Safety congress was held in Chicago, Illinois, in Oct. 1949 with an attendance of approximately 10,000. In addition, about 30 Regional Safety conferences were held during the year. (R. L. Fo.)

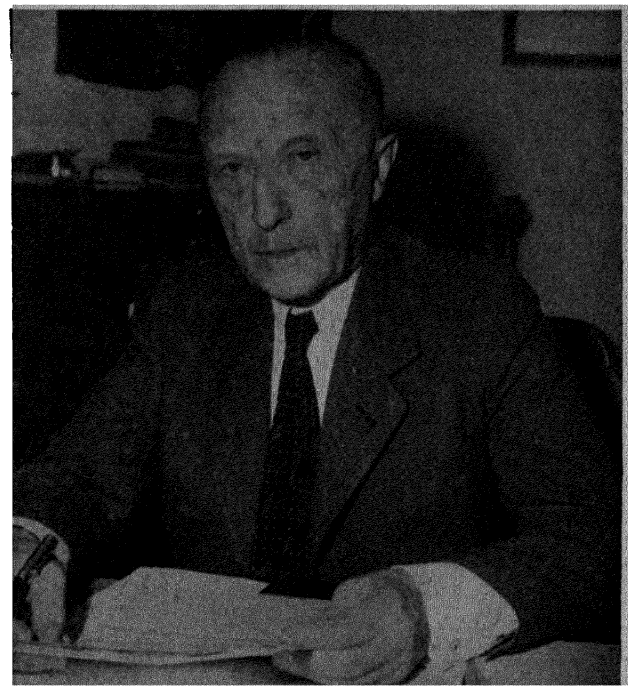
ACHESON, DEAN GOODERHAM, United States statesman (b. Middletown, Connecticut, April 11, 1893), was the son of an Englishman who became bishop of Connecticut. On Jan. 7, 1949, President Harry S. Truman appointed him secretary of state to succeed George C. Marshall, who resigned. He was sworn in on Jan. 21. He immediately assumed responsibility for the negotiations with the ambassadors and ministers in Washington of Belgium, Canada, France, Great Britain, Luxembourg and the Netherlands on a defence alliance for the north Atlantic. On April 4, he signed the North Atlantic treaty on behalf of the United States, and in September in Washington presided over the first meeting of the council of the treaty. In May and June he attended the Council of Foreign Ministers in Paris at which German and Austrian matters were discussed. He visited Paris again in November for talks with Ernest Bevin, Great Britain, and Robert Schuman, France. He later visited Western Germany and called upon Dr. Karl Adenauer, the federal chancellor, at Bonn. (*See* also *Britannica Book of the Year 1949.*)

ADEN. British colony and protectorates on southern coast of Arabia. Colony area: 80 sq. mi.: Pop.: (1946 census): 80,876. Protectorate area: *c.* 112,000 sq. mi. Pop. 1947 est.) 650,000, almost entirely Moslem Arabs. Governor: Sir Reginald S. Champion.

History. Kamaran island (22 sq. mi.) in the Red sea. administered by the government of India after capture from the Turks in 1915, was placed under the personal supervision of the governor of Aden. Rising costs necessitated the revision of the colony's development plan; the revised plan envisaged a total expenditure of £1,063,000 from the colony's surplus balances, £300,000 from Colonial Development and Welfare funds, and £660,000 to be raised by loan. A serious famine, which threatened the eastern protectorate in the spring, was in part relieved by supplies flown in by the Royal Air Force.

Finance. Currency: the Indian rupee (Rs.1 = 1*s.* 6*d.*). Colony's budget (1947-48): revenue Rs. 12,112,421; expenditure Rs. 9,880,631. (J. A. Hu.)

ADENAUER, KONRAD, German statesman (b. Cologne, Jan. 5, 1876), the son of a Cologne official. Following a university education at Freiburg-in-Breisgau, Munich and Bonn, and three years as a lawyer, he was in 1906 elected town councillor in his native city, with which his name will always be coupled. Eleven years later he was elected *Oberbürgermeister* (lord mayor) of Cologne, an office which he held uninterruptedly for 16 years. During his period of office Cologne university was founded, the stadium was built and the Cologne fair initiated. For a short time in 1919, during the Allied occupation, Adenauer, apprehensive at the spread of Communism in Berlin, espoused the idea of separation of the Rhineland from Prussia. He became a leading



Konrad Adenauer who was appointed federal chancellor of the Western German Republic on Sept. 14, 1949.

member of the Catholic Centre party and in the 1920s was often in the running for the office of German chancellor. From 1917 to 1933 he was a member of the Prussian Landtag and in 1928-33 was its speaker. In 1933 Hermann Göring, as prime minister of Prussia, dismissed Adenauer as politically unreliable. In June 1934 he was arrested and imprisoned for a short time in connection with the Röhm purge; and following the assassination attempt against Hitler on July 20, 1944, he was sent to Brauweiler concentration camp but was later released. After the downfall of the Third Reich the American occupation authorities reinstated Adenauer as lord mayor of Cologne, but the British removed him in Oct. 1945 as "incompetent." In Feb. 1946 he was elected chairman of the Christian Democratic union in North Rhine-Westphalia, became the same year chairman of the C.D.U. for the British zone and on Sept. 1, 1948, was elected president of the parliamentary council drafting the West German constitution or basic law. On Sept. 15, 1949, after the elections to the Bundestag (Federal Diet) of the new West German republic had given the C.D.U. the largest number of seats, Adenauer was appointed chancellor. As a politician he is a constructive conservative, possessed of a supple, organizing mind, determination not without rigidity, and considerable tactical skill. (D. A. Sn.)

ADULT EDUCATION. In this article only non-vocational education is discussed. In June 1949 an international conference on adult education convened by U.N.E.S.C.O. brought over 100 delegates representing 29 countries and 32 international voluntary organizations to Elsinore in Denmark. The conference had a fivefold purpose: exchange of ideas and experiences; study of urgent needs and common problems; examination of new techniques and methods; aid to U.N.E.S.C.O. in planning its programme; and consideration of means to continued collaboration.

U.N.E.S.C.O.'s second major contribution in the adult field was a seminar held at Mysore, India, in November and December. Delegates from 18 countries, all Asian except 3, and 25 observers from the Indian states and provinces, worked out

a series of recommendations and basic principles regarding rural adult education in Asiatic countries. Four working groups pooled their ideas on promoting literacy, raising health standards, removing economic grievances and instilling the idea of citizenship and social cohesion into undeveloped communities. Their principal recommendations for immediate action were that more women should be invited to help in public work, cottage industries should be revived and established, local self-governing institutions should be set up in areas not yet enfranchised and suitable reading material should be prepared for Asian adults and distributed through new systems of rural libraries.

A general statement of aims unanimously accepted declared that adult education should attempt to support and encourage movements working for the creation of a true culture by which the gaps between the so-called masses and the so-called cultured people might be filled; to foster the true spirit of democracy and of humanity, and to awaken and stimulate in young adults an awareness of life itself.

Among principal topics discussed were the relationship between the state and voluntary bodies, the role of the university, adult education centres and leaders and the exchange of workers, material and information. The conference resolved, *inter alia*, that (i) U.N.E.S.C.O. should be invited to set up a representative consultative committee to advise its adult education division; (ii) that U.N.E.S.C.O. should be asked to give special attention to Germany; and (iii) that all countries should be urged to consider women's needs. Shortly after the conference U.N.E.S.C.O. set up an international advisory council on adult education.

As part of its fundamental education programme U.N.E.S.C.O. chose as a discussion theme for 1949 "Food and People." Handbooks, pamphlets, wall charts, picture books, film catalogues and guides were published in several languages for teachers and as background material.

In England and Wales 19 residential short term colleges for adult education, all established since 1944, were in operation. These were maintained by universities, local education authorities, voluntary organizations (alone or in combination), independent trusts and private individuals. They offered, or provided accommodation for, courses on every conceivable topic. Most courses took place between Friday and Monday, but there were also many midweek (Monday to Friday) or longer courses (up to one month) chiefly for occupational groups and vacation schools. In Scotland Newbattle abbey, formerly a long term residential adult education college, was re-opened after wartime requisition.

In May the British Institute of Adult Education (founded 1921) and the National Foundation for Adult Education (established 1946) were amalgamated to form the National Institute of Adult Education (England and Wales). The chief functions of the new body were to provide information, devise machinery for consultation and promote inquiry and research, on behalf of all bodies, statutory and voluntary, engaged in adult education

In Canada, a Royal Commission on National Development in the Arts, Letters and Sciences was created under the presidency of Vincent Massey, chancellor of Toronto university. It was given the widest possible terms of reference, including broadcasting and television and Canadian cultural relations with international bodies.

In February a delegate conference representative of extra-mural study groups in the Gold Coast and British Togoland formed a People's Educational association comparable with the British Workers' Educational association. This was a direct result of the extra-mural study courses begun by Oxford university in 1947.

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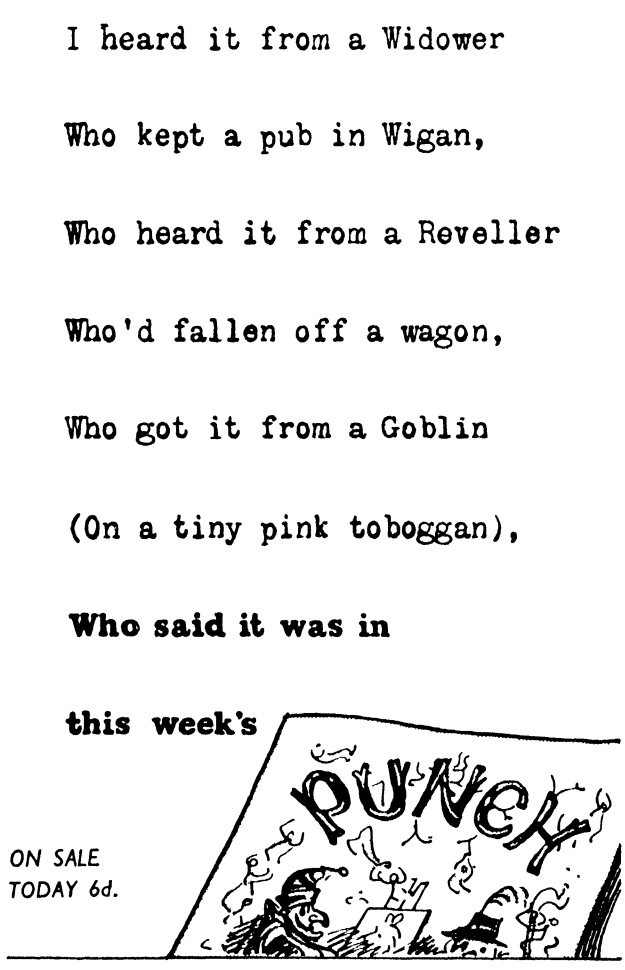
(H. C. D.)

ADVERTISING. Great Britain. British advertising experienced a boom year in 1949. There were several reasons for this, among them the introduction of the six-page daily newspaper in April with corresponding increases for Sunday publications, the 50% increase in the paper ration for magazines in July and the end on May 1 of the complete ban on all forms of electric signs and illuminated window displays which had been in operation since the beginning of World War II. Orders were also made during the year granting more paper for direct mail and poster advertising. Additionally, in Dec. 1948 the chancellor of the Exchequer, in negotiation with the Federation of British Industries, agreed to call off the Voluntary Limitation of Advertising plan, introduced in the previous March. Under this plan British firms which spent more than £2,500 a year on the advertising of rationed goods, luxury products and lines carrying heavy purchase tax gave voluntary assurance that they would cut down outlay on all forms of publicity by 15%. From March 1, 1949, advertisers were freed from this obligation, except to the extent that they promised the chancellor not to exert undue sales pressure in favour of products which were in short supply, thereby stimulating inflation.

Advertisers were not lax in taking up the extra advertising space which became available to them. The *Statistical Review of Press Advertising* estimated that in the first three months of 1949 expenditure on advertising in the British press totalled £6,490,498, an increase of 22·37% over the



A typical newspaper advertisement of the humorous weekly "Punch" (London)—one of many similar advertisements by "Punch" in 1949.

corresponding 1948 figure of £5,303,922. It was stated also that if the volume of press advertising recorded in the first quarter were to continue in like proportion throughout the year, the total would be about £26 million, only 10% below the figure for 1938. Later, in September, the *Statistical Review* showed that its earlier forecast looked like coming true. It commented on the rise in press advertising expenditure which had developed in April, May and June and calculated that British publishers had, during the first nine months of 1949, shared between them a total of £21,729,488 in advertisement revenue.

The British Transport commission, in publishing its first accounts in September, for the year 1948, showed that a net profit had been made of £2,207,610 from the sale of advertising positions on nationalized transport properties and vehicles. This indicated that advertising was the commission's biggest single money-maker among its non-carrying activities.

The government gave details of its own expenditure on posters. For the 12 months ended Sept. 30, 1949, public poster advertising by or on behalf of government departments cost £530,698. Civil estimates published in March showed that, through the Central Office of Information, the government reckoned to spend, during the year ending March 31, 1950, £867,000 on press advertising, £574,500 on poster advertising, £748,200 on films and £197,000 on exhibitions. All these figures were lower than in the previous 12 months.

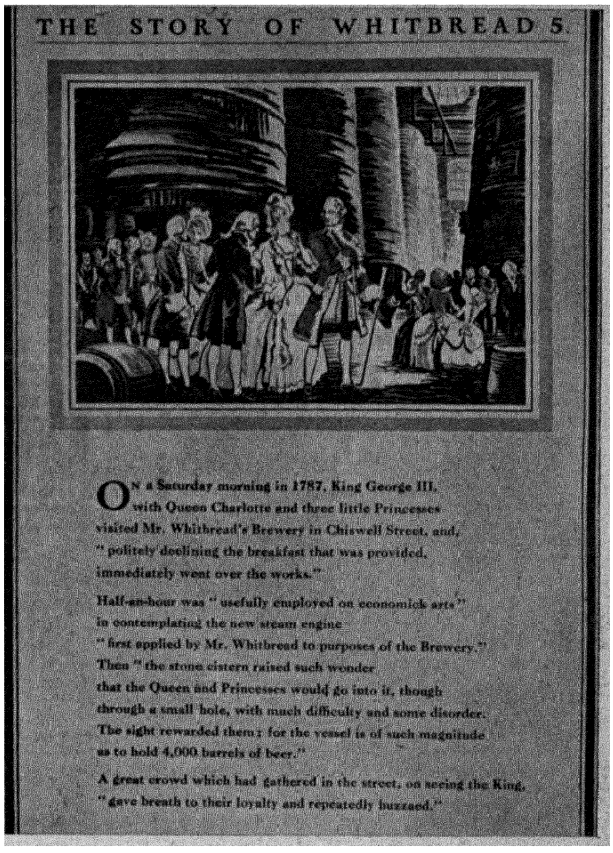
The Advertising association held a successful conference at Buxton, Derby, May 28-June 1. Subsequently it was decided to proceed with plans for a world advertising conference to be held in London in 1951 in connection with the Festival of Britain.

A distinctive feature of the press advertisement columns and of the hoardings was their use in political or political-industrial interests. The Conservative party began in April a nation-wide poster campaign designed to build up support for itself at the next general election. A number of industries (steel, insurance, sugar, cement) faced with the prospect of nationalization used advertising to campaign against a change in their present system of ownership.

During the year British advertising executives gave considerable attention to the problem of developing trade in the dollar markets. The peak effort of 1949 in this connection was the establishment in October of an Advertising Advisory committee to the Dollar Exports board. This committee, meeting in London, consisted of representatives of British advertising agencies with U.S. connections and U.S. advertising agencies with offices in Great Britain. The committee's job was to give free advice to British exporters contemplating entering or expanding in the U.S. and Canadian markets.

In June the Royal Commission on the Press issued its report. The commission gave much attention to the effect of advertising on the press and rejected the idea that advertisers influenced the conduct of newspapers. The commission declared: "As long as newspapers are sold to the public for less then they cost to produce, they will need a supplementary source of income. Of the various possible sources of income the sale of their space to advertisers seems to us to be one of the least harmful. The publication of advertisements should not be regarded, moreover, as a departure, under pressure of economic necessity, from the proper function of a newspaper. It is an essential part of the service which the newspaper renders to the community, valuable alike to commerce and industry and to the general public."

Commonwealth. Conflict between owners of publicity media and advertisers on the one hand and governments on the other was marked in both Australia and India. In 1949 the Australian Federal government gave up its wartime controls on newspaper advertisement rates and a



The fifth in a series of six posters issued by the firm of Whitbread and exhibited on the London Underground during 1949.

plan by the New South Wales State government to reintroduce these for newspapers in its own territory aroused considerable opposition from press proprietors.

In India some provincial governments contemplated schemes for the taxation of newspaper advertisements at various rates. Owners of newspapers in India pointed out that, with newspapers circulating across state frontiers, taxation imposed by different authorities on several different scales would be difficult to work and would lead to anomalies. It was agreed by the authorities that taxes on advertisements should be uniform and operated by the central government.

In South Africa a survey carried out by South African Research services (Pty.), Ltd., estimated that in June 1949 some £229,000 were spent on press advertising of branded goods and services in 250 South African publications. The figure for May was £221,000; for April, £228,000. The January to March average was £209,000.

At the International Chamber of Commerce 12th biennial congress, which took place in Quebec, Canada, in June, the I.C.C.'s committee on advertising approved the International Code of Standards of Advertising Practice and the reinstitution of the International Council on Advertising Practice of the I.C.C.

Europe. Great Britain's Advertising association joined with Belgium, Brazil, Denmark, Finland, France, Norway, Sweden and Switzerland in establishing the International Union of Advertising at a meeting which took place in Zürich, Switzerland, on Sept. 24. The suggestion that the union should be formed was made by French advertising interests at an international advertising conference in Paris in July 1947. The object of the International union was to bring together the advertising associations representative of all the nations. Paul O. Althaus, Switzerland, was elected

president. Also in September the European Society for Opinion Surveys and Market Research adopted a code of standards governing market research practitioners and methods. British advertising, through the Market Research society, sent representatives to this meeting, as did France, Switzerland, Italy, Holland, Belgium, Sweden, Finland and Denmark. (A. J. HY.)

United States. The rate of increase in advertising expenditures in 1949 was not so great as in previous postwar years, standing at approximately 5%. The most important single gain was made by newspaper advertising. The $5,400 million spent in 1949 in all media was divided as shown in the Table.

TABLE—U.S. ADVERTISING EXPENDITURES*
(Million dollars)

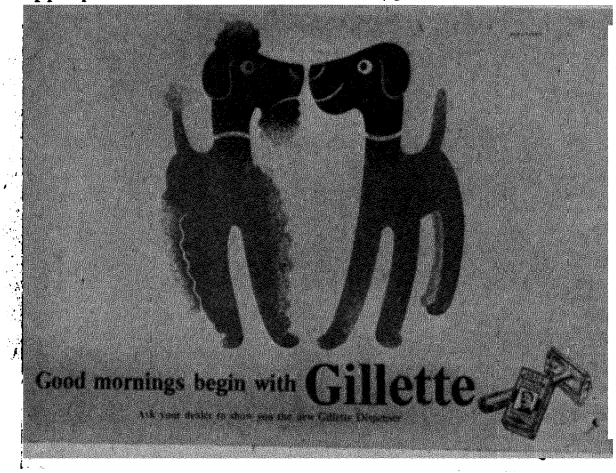
	1948
Newspapers	$1,441·1
Radio	596·9
Magazines	512·7
Direct mail	574·5
Trade and business papers	200·0
Outdoor	132·1
Farm papers	20·4
Miscellaneous	924·4
Total	$4,402·1

* Estimate by Hans Zeisel, McCann-Erickson, Inc.

Problems facing advertising in 1950, as stated by various leaders, included the following: how to encourage adequate use of advertising to sell the vast volume of goods and services the economy was capable of producing; how to achieve better integration of advertising with merchandising and sales programmes; how to improve measurements of advertising effectiveness; how to secure better public relations through advertising; how to set advertising appropriations and to budget more scientifically.

Two new products were introduced during the year, ammoniated dentifrices and anti-histamine cold remedies, that resulted in large space and competitive advertising. During the year the automobile manufacturers moved toward a buyer's market, with the result that their advertising increased and often featured price cuts. In Nov. 1949 the advertising of new passenger cars in newspapers, for instance, was 239% higher than in Nov. 1948.

The year 1949 closed with fair optimism among advertisers. They had passed through the recession of the spring and early summer successfully, and felt that 1950 would be a good year. The Research Institute of America found in a poll of 30,000 member firms that one-third planned to increase advertising appropriations in 1950, less than 7% to reduce them. The Association of National Advertisers' annual survey of its members did not indicate that there would be much increase in spending in 1950.



A Gillette poster—one of a series in which the phrase "Good mornings begin with Gillette" was used.

Newspapers and Magazines. Newspaper lineage was approximately 2% higher in 1949 than in the year before. Media Records reported 2,094,103,004 lines for the first 11 months of the year, a gain of 1·7% over the first 11 months of 1948. The rate of increase in December was faster, so that it was expected the year would end with a gain of about 2% or more. There were continued rate increases, but it was felt that rates were reaching a plateau of some stability.

National newspaper advertising (excluding local retail advertising) fared better, being 15·9% higher during the 11-months' period than for the like months of 1948. The largest gains were made by alcoholic beverages, up 29·8%; dentifrices, up 53·7%; new passenger cars, up 83·0%. Alcoholic beverages and new passenger cars together accounted for 22·8% of all national newspaper lineage during the first 11 months. Advertising of the anti-histamine cold remedies was reflected in a rise of 30·3% for medical advertising in November.

The Magazine Advertising bureau estimated that advertising expenditures in national magazines for the first six months of 1949 were at the annual rate of $450 million, compared with $463 million for the same period of 1948, a decrease of 2·8%.

Radio. The National Association of Broadcasters estimated that gross income of the radio industry was up 4·5% from 1948, but that this gain was almost matched by a rise of about 4% in operating expenses. It predicted a gross income of $435,279,000 in 1949, as compared with $416,720,279 in 1948. National network income at $129,300,000 was down by 3·3%; national spot business at $118,425,000 was up 13·0%; local retail income at $180,025,000 was up 5·3%.

The year in radio was marked by competition among the networks for major advertising accounts, a competition that resulted in several switches of popular programmes. The year was also noteworthy for the decline in popularity of the type of programme marked by contests in which large amounts of merchandise or cash were given as prizes. The Federal Communications commission announced in the year that it intended to ban such "giveaway" programmes but was temporarily restrained by a court order obtained by a producer of syndicated radio shows.

Television. Television was the most exciting advertising medium during 1949, and data on its growth became inaccurate almost as soon as published. The number of television stations jumped during the year from 50 to nearly 100, the number of owners of sets from 1 million to about 3·5 million, the television audience from about 4 million to more than 14 million, the number of television advertisers from 1,000 to 2,000. It was estimated that approximately $20 million was invested in television time sales by advertisers during the year. As advertising increased, time costs approximately doubled, in New York going from an average of $1,000 an evening hour in January to $2,000 in December.

Other Media. Advertising expenditures in outdoor advertising amounted to approximately $78 million, according to Outdoor Advertising Inc. This was approximately the same as for 1948. Advertising revenue of the 41 farm publications measured by Farm Publication Reports, Inc., for the first half of 1949 was $25,044,181, compared with $23,557,027 for the same period of 1948. The volume of advertising in business papers in 1949 was estimated at $215 million, compared with $200 million in the previous year.

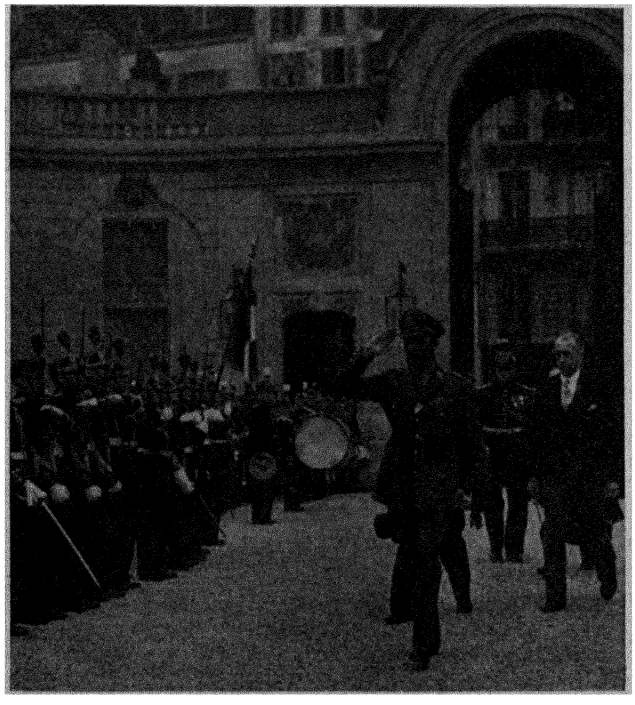
The year saw an increase in the use of premiums in advertising and one estimate put their value at $1,000 million, or double the prewar peak. Coupons redeemable in merchandise reappeared on the package of one of the largest-selling

brands of cigarettes. Door-to-door selling also increased, an indication of greater competition in selling. The amount of merchandise moved by this kind of selling was estimated at about $7,000 million. (D. ST.; R. A. BN.)

AFGHANISTAN. An independent kingdom in the centre of Asia bounded to the north by the U.S.S.R., to the west by Iran, to the south and southeast by Pakistan and to the east by China (Sinkiang). Area: *c.* 270,000 sq. mi. Pop. (1947 est.): 12 million. Races: Afghans or Pathans or Pashtuns 53%; Tajiks 36%; Uzbeks 6%; Hazarah 3%; others 2%. Religion: Moslem (Afghans are Sunni, others mainly Shia). Languages: Pashtu, but Tajiks and Hazarah speak Persian. Chief towns (pop. 1946 est.): Kabul (cap., 206,200); Kandahar (77,200); Herat (75,600); Mazar-i-Sharif (41,900). King, Mohammed Zahir Shah (*q.v.*); prime minister (from May 1946), Sardar Shah Mahmud Khan, the king's uncle.

History. The cold war between Afghanistan and Pakistan continued during 1949. Political circles in Kabul and the Afghan government insisted that Pakistan should constitute the North West Frontier an independent Pathan republic or at least allow the Pathans of the tribal areas on the Pakistan side of the Durand line to opt for Kabul. The press and wireless of Kabul continued to pour out abusive propaganda against Pakistan. The Pakistan government refrained from reprisals and trade between the two countries went on as before; in fact economic co-operation was offered. Railway rates concessions were however withdrawn. Propaganda had not undermined the loyalty of the Pathan tribesmen in the Pakistan hinterland. The stormy petrel of the Afghan frontier, the Fakir of Ipi, was compelled to migrate to Afghanistan where he received a friendly welcome. The British government categorically refused the Afghan request that it should intervene.

The country was in the grip of an economic crisis. The Persian lamb trade, a vital element in Afghan finance, was languishing: Indian import duties paralysed the export of fruit. Early in the year the United States refused the Afghan request for a loan of $600 million. A big American firm had for two or three years been carrying out important work on roads, bridges and irrigation dams. Work was later held up owing to the fading out of Afghan credit, but was to be resumed on the strength of a $21 million loan (repayable in 15 years at 3½%) granted by the Export-Import bank on Nov. 24. King Mohammed Zahir paid a visit to France in the autumn of 1949. (W. BN.)



Mohammed Zahir Shah reviewing the guard in the courtyard of the Elysée palace, Paris, after visiting President Vincent Auriol on Oct. 13, 1949.

Education. (1948 est.) Primary schools 400, secondary schools 25, higher schools (*lycées*) 7, and a university at Kabul with four faculties: medicine (founded in 1932), political science and law (1939), science (1941) and arts (1944).

Agriculture. Two food crops are raised each year—one of wheat, barley or lentils, and the other of rice, millet or maize. Other important crops are cotton, tobacco and fruit. The fat-tailed sheep provide the main meat diet.

Foreign Trade. Principal imports are: tea, coffee, cocoa, cigarettes, spices, oil, cement, minerals, machinery and other manufactured goods. Principal exports are: karakul skins, dried fruit, wool and carpets.

Transport and Communications. There are eight main roads totalling 2,265 mi. Licensed motor vehicles (Dec. 1948): cars 770, commercial vehicles 2,070. There are no railways.

Finance. Monetary unit: *afghani* with an exchange rate (Nov. 1949; in brackets Nov. 1948) of 47 (57·14) afghanis to the pound.

AGRICULTURE. The year 1949 opened with the promise of continuation of large grain exports from North America and of accelerating progress towards increased livestock production in Europe.

Cereals in the Northern Hemisphere. The European harvest of wheat and rye apart from the U.S.S.R. harvest was 18 million metric tons (48%) greater in 1948 than in 1947. The harvest of coarse grains, barley, oats and maize, was 7 million tons (16%) greater. In North and Central America the wheat and rye harvest of 1948 was almost as great as the 1947 record harvest of 47 million metric tons, and the coarse grain harvest was 39 million metric tons (41%) greater than the 1947 harvest. The United States and Canada were thus able to export during the cereal year ended June 1949 a total of 25·1 million metric tons of grain or 3·8 million more than during 1947-48 and 17·3 million more than the yearly average during the late 1930s.

Together with slightly increased supplies from Australia but reduced supplies from the Argentine and other countries, these North American supplies were sufficient to provide Europe with 17·7 million metric tons of imported bread grains during 1948-49. With greater home-produced supplies from the 1948 harvest, these raised Europe's total bread grain supplies during 1948-49 by 15·4 million metric tons to 72·0 million, which was almost as great a total supply as that consumed in prewar years. Europe's human population had increased 14% after the late 1930s but a smaller proportion of the wheat supply was fed to livestock in the form of milling by-products or low quality grain; and potato supplies and consumption were much larger. A significant development early in 1949 was that, in Germany, certain low quality cereals became difficult to sell as human rations owing to improved imports and home deliveries of grain. The improvement of the bread grain position in the western world as a whole was indeed such that stocks of wheat in the four main exporting countries, the United States, Canada, Australia and Argentina were raised by 2·8 million metric tons to 17·4 million during the 12 months ended June 1949. Shipments of wheat and rye to deficit areas in South America, Asia, Africa and Oceania were increased by 2·0 million metric tons to 8·1 million as against only 3·0 million during the late 1930s. The greatly improved supplies of coarse grains in North America were used largely for livestock feeding there; but stocks were raised by some 24 million metric tons to about 41 million and exports by 3·0 million

to 5·2 million. In the international market this increase of North American exports was largely offset by a decrease of Argentine exports by 1·8 million metric tons to 2·2 million; but it was possible to sustain total European imports of coarse grains at 6·7 million. The whole increase of some 7 million metric tons in Europe's own production of coarse grains was thus available to raise livestock production further.

Livestock Production in Europe. Europe had good supplies of fodder and favourable grazing conditions during the autumn and early winter of 1948 and during the spring of 1949.

Egg, pigmeat and milk production responded rapidly to these better supplies of feedingstuffs. Estimates prepared by the Food and Agriculture organization (F.A.O.) of United Nations indicated that in Denmark, the Netherlands, Sweden, Eire and Belgium, considered as a group, egg production was 43% greater during 1949 than during 1948. Comparable percentage increases were 16% for the United Kingdom, 5% for France and Italy and 24% for Czechoslovakia. Egg production during 1949 thus exceeded prewar production by some 8% in the main prewar exporting countries and Belgium, but remained below prewar production by 2% in the United Kingdom, by 6% in France and Italy and by 29% in Czechoslovakia.

An expansion of pig production was also made possible. In Denmark the number of bred sows was increased by 102,000 (74%) between July 1948 and July 1949, one of the most rapid increases ever recorded. In the United Kingdom the comparable increase was 21,000 head (10%). In Eire total pig numbers increased by 45%, in Belgium by 41%, in France by 13%, in Poland by 28% and in Czechoslovakia by some 23%. These changes did not, however, restore production to the levels of the late 1930s. In Denmark, Sweden, Belgium and Switzerland these prewar levels came again within sight but in the United Kingdom, Eire and the Netherlands production was still at least some 30% lower during 1949 than during the late 1930s.

Increased supplies of feedingstuffs were also the main cause of the rapid increase in milk supplies. Sales of milk off farms in the United Kingdom were 14% and in Denmark 17% greater during the first half of 1949 than during the first half of 1948. Butter production in Eire, Denmark, the Netherlands and Sweden was 22% greater.

Improved production in Europe of eggs, pigmeat and dairy produce went largely to increase domestic food rations or to reduce reliance on imports from the western hemisphere but the countries most dependent on exports of such products continued closely to restrict domestic consumption. Thus Denmark and the Netherlands exported during the first half of 1949, as compared to the first half of 1948, 63% more eggs, 32% more butter and 158% more cheese. Their exports of bacon to the United Kingdom were up by 80%. There were also some significant exports from Poland and Yugoslavia.

Of beef and veal, mutton and lamb, the shortage of internationally traded supplies continued to be critical between January and June of 1949 but a slight improvement took place later and this, together with a temporary increase in the rate of slaughter in the United Kingdom due partly to a change in the seasonal variation of the official buying prices for fat cattle, caused a rapid building up of meat stocks. This necessitated release of substantial additional rationed supplies during October as there was insufficient cold storage accommodation. But the general underlying shortage of meat in the United Kingdom and Europe continued. Estimates published by F.A.O. showed that the production of meat during 1948 was less than in prewar years by 3·2 million metric tons (36%) in western Europe and by 1·3 million metric tons (41%) in eastern Europe. In the United Kingdom it was less by 0·34 million metric tons (34%) and imports into the United Kingdom were less by 0·30 million (30%). In North America, on the other hand, production was greater by 3·2 million metric tons (36%), in South America by 0·2 million (4%) and in Australia and New Zealand by 0·1 million (5%). Except in Australia and New Zealand these increases in supplies over prewar levels were mainly taken up by increased home consumption, exports being greater by only 100,000 metric tons from North America, by the same quantity from South America and by 70,000 metric tons from Australia and New Zealand.

Northern Hemisphere Harvests. In late summer of 1949 conditions became less favourable. Drought reduced grain yields in some European countries and shortage of pasture was marked in Switzerland, France and Italy. France suffered a reduction of cattle numbers because of the impending shortage of winter fodder. She had to plan to import 1·5 million metric tons of coarse grain during 1949-50, almost twice as much as during 1948-49. She also entered into special agreements for the purchase of butter and cheese from the Netherlands, Denmark and Switzerland. Even in England milk yields were substantially reduced. The seasonal decline was also accentuated in Canada.

On the other hand, autumn-sown grain crops generally did well and the European harvest of bread grain was satisfactory despite a reduction of acreages in favour of spring-sown coarse grains or a return to grass. In the United Kingdom total production of wheat was some 0 25 million metric tons less than in 1948. In France and Spain the reduction was proportionately greater, but in western continental European countries as a group the wheat and rye harvest was estimated to be 1 million metric tons greater than in 1948. Western Germany was expected to have some 0·2 million metric tons more bread grain and 0·45 million more coarse grains than from the 1948 harvest.

In North America wheat and rye production was some 5 million metric tons (11%) less than in 1948 but still sufficient to sustain large grain exports without calling heavily on existing swollen stocks.

Coarse grain crops in western Europe were, in most countries, not very much smaller than in 1948. In the United Kingdom the total production was estimated as almost equal to that of 1948. In North America production was down by some 12 million metric tons (9%) from the record levels of 1948, and Canadian production was down by some 15%. But with large stocks in the United States, total supplies of feed grain there were the largest ever in relation to the livestock population to be fed. Maintenance or even increase of exports during 1949-50 became feasible.

Supplies of roughage feedingstuffs were unusually low in France and other European countries affected by the summer drought, and also in Canada. An unusually mild October made good only a small part of this shortage. In the United

TABLE I.—PRODUCTION OF BREAD GRAINS AND COARSE GRAINS

(million metric tons)

	1934-39	1946-47	1947-48	1948-49
Wheat and rye				
Europe	61·4	46 3	36 8	54 3
North America	28 2	43·7	47·9	47 6
South America	8·5	7 8	9·2	7 2
Asia	41·3	40 8	39·5	44·3
Africa	3·8	3·9	3·2	3·7
Oceania	4·4	3 3	6 1	5 3
Total (a)	147·6	145·8	142·7	162·4
Barley, oats and maize				
Europe	54·9	38·3	43·4	50·2
North America	81·2	122·8	95·2	134·6
South America	17·0	15·4	16 1	14 9
Asia	33·0	31·4	32 7	34 6
Africa	8·9	8·7	9·5	9·0
Oceania	0 8	0·8	1·5	1·3
Total (a)	195·8	217·4	198·4	244·6

(a) Excluding U.S.S.R.

SOURCE. F.A.O. *Report* of Committee on World Commodity Problems.

Kingdom fodder roots and green fodder crops were unsatisfactory, being affected, like potatoes, sugar beet and vegetables, by the long drought.

Agricultural Production Programmes. All European governments continued to be concerned with agricultural plans and these were kept under general review by the Organization for European Economic Co-operation, by the Economic Co-operative administration of the United States and by other bodies. Increased bread grain production and increased production of coarse grains and other animal feedingstuffs to permit greater milk, meat and fat production continued to be the main objectives. The underlying purpose in each country was to improve the national diet and to minimize dollar expenditure for imports.

Plans were upset by weather conditions during the period June to Sept. 1949 but basic progress continued to be made in providing the fertilizers, machinery and motive power needed for greater production. Imports of agricultural tractors into continental Europe had numbered 54,000 during 1948 as against only 14,000 during 1937 and, in addition, increasing numbers were available from continental factories themselves. Supplies of agricultural machinery were also greater. The number of farm horses in Europe was estimated to have increased by 300,000 (2%) but was still 16% below the prewar number. One of the most satisfactory improvements was in the supply of nitrogen fertilizers.

In several countries considerable public attention was drawn to the difficulties of inducing farmers to carry out the centrally devised plans. In the United Kingdom a shortage of workers, especially skilled workers, and of houses for them actually led to a reduction of acreages of intensive crops in some areas.

TABLE II.—DESTINATIONS OF WORLD GRAIN EXPORTS
(million metric tons)

	Europe	Asia	Africa	Other	Total
Bread grains:					
1934-38	11·3	1·3	0·3	1·9	14·8
1946-47	13·7	3·9	0·4	3·0	21·0
1947-48	19·8	4·0	0·8	2·3	26·9
1948-49	17·7	5·8	0·9	2·2	26·6
Coarse grains:					
1934-38	11·3	0·2	0·1	—	11·6
1946-47	5·0	1·8	0·5	0·6	7·9
1947-48	6·7	1·4	0·2	0·4	8·7
1948-49	6·7	1·6	0·3	1·0	9·6

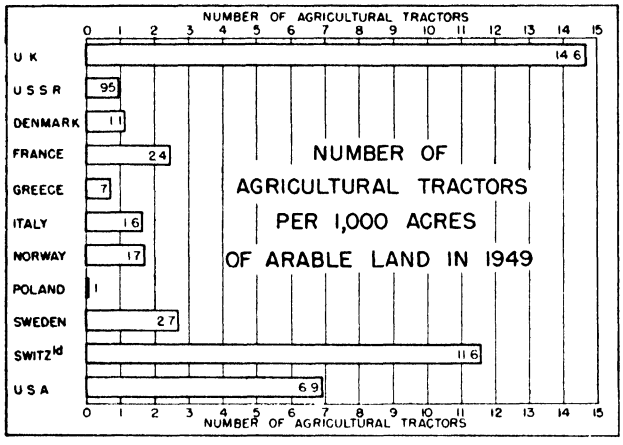
SOURCE: F.A.O. *Report* of Committee on World Commodity Problems.

Planning of another kind was re-introduced in the United States. Controls of wheat acreages for harvest in 1950 were imposed for the first time since 1943 and these might result in a reduction of the sown area by some 10 million ac. At the same time congress voted overwhelmingly against subsidies to maintain farm incomes at their high average level since 1940. Lack of grain storage space threatened to make some of the existing price supports difficult to continue. The basic long term objectives of United States agricultural policy were discussed during the latter part of 1949.

Argentine policies continued to influence European agriculture mainly through their effects on cereal, linseed and meat exports to Europe. The government called in June for an increase of 3·7 million ac. in the area sown to wheat, a



***In Kent a super** combine is seen working during the 1949 harvest — an unusually good one after one of the sunniest, driest summers on record.*



slight increase in that sown to coarse grains and maintenance of the linseed acreage. The fixed prices paid to farmers for fat cattle were raised some 37%. This plan, however, would still leave Argentine production far below prewar levels. The effects of industrialization and inflation accompanied by control of farmers' returns, had reduced the number of agricultural workers by some 400,000 (20%) after 1937, and the area sown to cereals and linseed by some 14 million ac. (30%). Even during the later part of 1949, the prices paid to farmers continued to be at a much lower level than prices charged to foreign buyers of farm produce. Large quantities of maize did not find export buyers at the prices sought and had to be sold as insect damaged at very low prices to Argentine livestock producers.

In Australia and New Zealand emphasis on expansion of production continued and some encouragement was obtained from higher prices for dairy products and meat sold to the United Kingdom. For New Zealand the bulk contract prices were raised by 7·5% and the Dairy Products Marketing commission raised butter fat prices to farmers by slightly over 5%. The butter fat in dairy products delivered from New Zealand factories during the year ended July 1949 was 461 million lb., 10% more than during 1947-48 and only 1% below the record output of 1940-41.

Lamb production for export was also satisfactory but there were significant reductions in beef and pigmeat outputs. In Australia total meat production was higher but exports were slightly reduced because home consumption of beef rose by 9%. The sowing of wheat was hindered by dry spells, particularly in western Australia.

South African plans were wholly upset by the droughts which seriously reduced the working capacity of draught cattle and caused heavy slaughterings.

In India a major event of 1949 was the government's announcement in April that except in case of widespread failure of crops or for purposes of building up a central reserve no food grains would be imported after 1951. A central development board was given responsibility for securing an additional 3·6 million metric tons of grain from Indian lands through irrigation and reclamation schemes, clearance of scrub, subsidies for water supplies, manures and seeds and in other ways. An increase in the use of nitrogen fertilizers by more than three million metric tons was contemplated and some compulsion imposed on municipalities to make full use of their sewage and refuse.

Fears of Surpluses. These Indian plans for self-sufficiency in grains and the continuing drive in the United Kingdom and other western European countries for greater production and reduced imports from the dollar areas aggravated fears of food surpluses in the western hemisphere and until about mid-summer these were further aggravated in the United States by declining business activity and diminishing domestic demands. The council of the F.A.O. appointed a committee of experts in June to examine what seemed to be the familiar prewar problem of surpluses in some countries and starvation in others and this committee reported promptly that the causes of surpluses lay mainly in shortages of western hemisphere currencies. They proposed an international commodity clearing house with a capital of United States $5,000 million. This would be used, for instance, to buy United States wheat for India, the fund being repaid by India in rupees which would be held by the clearing house until they became convertible into United States dollars. Until there was fundamentally better balance in world trade it was foreseen, however, that this initial capital might comparatively soon be held in currencies still inconvertible into dollars.

The danger of surpluses, that is, of supplies forcing prices down below levels considered reasonably remunerative by producers, was expected particularly for sugar, cotton, certain fats and oils and, in some years, bread and feed grains. Some serious surpluses, especially of rubber and jute, were feared even in non-dollar areas.

General Price Changes. The main fears of farmers were that the general level of effective demands for their produce would decline. In some European countries a slackening of inflation of foodstuff prices was evident, especially during the early part of 1949. In the Netherlands, for example, where close attention was paid to changes in costs of farm production prices of livestock produce were reduced as a result of greater supplies of feeding stuffs and improvement of livestock yields, but generally farm incomes were well sustained.

In the United Kingdom agricultural prices were raised by an average of 7% following the February price review. This rise was due to withdrawal of part of the subsidy on feedingstuffs, to increase of agricultural wages by some 4% and, not least, to the desire to expand agricultural production further in accordance with the programme first announced in Aug. 1947. Agricultural prices were, indeed, raised to the highest level ever recorded. After devaluation of the pound sterling these prices were not far out of line with price levels in the United States and Canada but they continued high as compared to the prices paid for the principal foodstuffs from Australia, New Zealand and nearly all European countries. Subsidies were continued in the United Kingdom on purchased fertilizers and on labour and machinery services administered by the County Agricultural Executive committees, but it was announced in July that half the fertilizer subsidy would be withdrawn in July 1950 and the remainder in July 1951. Complete withdrawal of the remainder of the feedingstuffs subsidy in April 1950 was announced in October. A reduction of subsidized machinery and labour services was also contemplated.

Trade Agreements. Freer multilateral trade continued to be the ultimate objective of the United Kingdom government and others receiving financial aid from the United States; and controls of trade were relaxed for some fruit and vegetables and minor agricultural products. Competition from Belgian, Dutch and other continental countries was much

TABLE III.—MILK PRODUCTION
(thousand metric tons)

	1937	1947	1948	1948 (a)	1949 (a)
United Kingdom (b)	5,439	6,800	7,582	2,307	2,639
Australia	5,058	5,060	5,475	1,890	1,972
New Zealand (c)	4,508(d)	4,151	4,370	—	—
Canada	6,859	7,818	7,551	1,850	1,900
United States	46,200	54,000	52,400	16,100	16,700
Denmark	5,290	4,104	4,068	1,156	1,352
Netherlands (b)	—	2,886	3,674	816	1,163
Sweden (b)	2,847	3,423	3,361	1,031	1,088

(a) Jan.—June. (b) Deliveries of milk from farms.
(c) Year ending June 30. (d) Average for July 1934—June 1938 period.
SOURCE F.A.O. *Monthly Bulletin*, Sept. 1949.



The drought in Great Britain in 1949 caused many farmers to improvise water supplies. Here in Lincolnshire a tractor has been connected to a pump to provide sufficient water for a small herd of cattle.

feared by British growers; a conference of the International Federation of Agricultural Producers was called to discuss control of trade in horticultural produce but no agreed proposals were reached. Increasing supplies of eggs from Eire and the continent caused anxiety to British farmers and this was aggravated by the fact that the official price paid for eggs was not raised in April by as much as would cover increases of feedingstuffs and other costs. Farmers did not, however, object to the comprehensive bilateral trade agreement reached between the United Kingdom and the Argentine because meat continued to be in such obviously short supply and because many farmers were anxious to secure more coarse grains for animal feeding. A new six year agreement between the United Kingdom and Denmark for butter was negotiated in June 1949 by which the price for the year Oct. 1949-Sept. 1950 was 15½% lower than the price during Oct. 1948-Sept. 1949; yearly reductions or increases of 7½% could also be negotiated each autumn during the course of the agreement.

An international wheat agreement was negotiated during the early months of 1949 and ratified by the four main exporting countries and by a sufficient number of importing countries before August.

Some Tropical and Sub-tropical Developments. World production of rice continued to increase but serious setbacks were suffered in Burma. Many villages were burnt in Burmese-Karen warfare. The administrative machinery for granting loans to rice cultivators was largely disrupted and the planted rice area declined further by some 20% to 8 million ac. as compared to 12·7 million ac. prewar.

Cane sugar production in 1948-49 was raised by a further 3% to a total of 18% greater than that of the late 1930s. Beet sugar production was also greater than in prewar years by 3%. The free market for sugar exports continued to be much restricted as a result of dollar shortages and it was feared that serious surpluses would be evident before long in some exporting countries.

Fats and oils continued in short supply on international markets. During 1948 world production had been only some 7% less than in prewar years but exports had been less by 30% since the producing countries had been consuming more.

TABLE IV.—PRODUCTION OF BASIC FOOD AND FEEDINGSTUFFS
(Countries of the Organization for European Economic Co-operation)
(million metric tons)

	1935-38 (average)	1947-48	1948-49	1952-53 (plans)
Bread grains .	34·2	20·8	31·8	39·1
Coarse grains .	29·6	24·6	28·1	34·4
Total consumption of coarse grains .	41·9	29·0	36·7	42·9
Milk . .	74·7	57·1	63·4	83·3
Meat and bacon .	8·8	5·9	6·3	9·3
Fats and oils .	2·7	2·1	2·2	3·2

SOURCE: *Report* of the O.E.E.C. to the Economic Co-operation Administration of the United States, vol. 1., July 1949–June 1950 plans.

During 1949 there was no substantial general improvement in this position. Some further progress was made by the United Kingdom's Overseas Food corporation in establishing new farming areas in Tanganyika but the 1949 crop was ruined by drought and costs were exceptionally high. Better progress was made in speeding transport of stocks of groundnuts from long established farming areas in northern Nigeria.

Agricultural Research and Technical Developments. Research on many fronts continued in almost all countries and there was a growing faith in the ability of science eventually to overcome the danger to mankind from malnutrition and starvation. This was memorably expressed by Sir John Russell (*q.v.*) in his presidential address in Sept. 1949 to the British Association for the Advancement of Science.

Amongst the more noteworthy lines of research were those in plant physiology, making use of radio-active tracer elements, and those concerned with organic weed-killers and pesticides of many kinds. A considerable advance was made towards control of *trypanosomes* in tropical cattle. Remarkable increases of crop yields were secured in trials of phosphate fertilizers in pill form on some Nigerian soils.

Notable progress was made in the designing of harvesting machinery and of labour saving arrangements for dairy farms in the United Kingdom. Despite exceptional weather conditions some sound progress was also made in the United Kingdom in devising economical methods of grass conservation. (J. R. RA.)

TABLE V.—IMPORTS OF AGRICULTURAL TRACTORS AND MACHINERY

	Europe	North America	South America	Oceania	Africa	Asia (a)
Tractors		(thousands)				
1937	13 8	15·1	6·3	12 4	2·5	0 9
1946	26·5	28 4	9 2	5·7	9 4	2 0
1947	35·8	42·2	19 5	10 0	14·7	4 4
1948	56·7	66 0	28 7	17 9	35 3	7 0
Machinery		(value in million U S dollars)				
1937	32·1	21·8	25 8	3 9	12 9	15 5
1946	72 4	74·3	39 3	9·4	32 1	9 6
1947	109 8	129 3	93 1	24 1	63 9	22 1
1948	150 4	204 8	113 0	31 6	118 0	32 8

(a) Including Egypt, Sudan, Ethiopia and Eritrea, excluding U S S R
SOURCE *Monthly Bulletin* of the Food and Agriculture Organization

United States. The U.S. enjoyed a good agricultural year with no crop scare; crop productivity maintained a very high level compared with that prior to World War II, though it was below the record level of 1948. New records of production were only achieved in rice, dry beans, and pears in 1949, and uniformly large production gave an overall result which was only 6% less than the previous year. Livestock numbers, particularly pigs and poultry, increased.

In spite of a slow decline in prices, the volume of agricultural marketings was such as to provide a gross income to farmers of about $32,000 million, compared with $35,300 million in 1948. However, because of higher costs of production, the realized net income, which had been declining since 1947, in 1949 was estimated at only $14,000 million compared with $16,700 million in 1948. Agricultural assets at the beginning of the year were estimated at $130,000 million compared with $122,278 million a year earlier. But farm land values which constituted a large portion of the assets declined 5% or 6% during the year, hence total assets were also lower by the end of the year.

Crop Production. The aggregate volume of all 1949 crops in the U.S. declined from the record volume of 154% of the 1935-39 level in 1948 to 148% in 1949. Food grains declined substantially to 165% of the 1947 and 1948 levels. Cotton was 9 points higher than in 1948. Total harvested acreage for the 52 principal crops amounted to 356,041,000, compared with 352,297,000 in 1948 and a ten-year average of 340,709,000. This acreage was larger than in any other year since the peak period of 1930-33. Losses from weather damage or insect destruction of planted crops amounted to nearly 13 3 million ac., more than in any other year since 1943. Yields per acre were above average for most crops, and the composite yield stood at 142% of the 1923-33 average, exceeded only by the 151% of 1948.

The eight major grain crops in 1949 produced a total tonnage of 163 million, the second largest on record 1948 provided a record of 180 5 million tons. Food grains constituted 37 million tons of that total. The feed grain total of 126 million tons represented the second largest on record, but a decline from 138 million tons the previous year; included were a large corn crop (in spite of some drought and the cornborer), the second largest grain sorghum crop, an above average oat crop, and a below average barley crop.

The oilseed crop of 1949 amounted to 15·3 million tons, near the 1948 record and 41% above average. Soybeans approximated the 1948 record cottonseed was about 9% in excess of 1948 and 40% above average; flaxseed and peanuts were below the 1948 record crops, but flaxseed was nevertheless 45% above average, and peanuts a good average crop.

Corn was planted exceptionally early under very favourable conditions on a slightly larger acreage than in 1948. Although the crop progressed to an early harvest, some dry weather plus exceptional damage by the cornborer reduced the yield to an average yield of 38·9 bu. per ac. against 42·8 bu. in 1948.

The 1949 wheat crop, though the fourth largest on record, was a disappointment. A record acreage was sown and survived the early stages nicely, only to be rather severely damaged just prior to harvest in the Southern and Central Plains by excessive rain and fungus diseases. Nevertheless, the total supply situation was such that acreage allocations were set for the 1950 crop at about 15% less than in 1949. Domestic consumption of the large crop would not be much more than 700 million bu. Exports, which in 1948-49 reached the unprecedented level of 503 million bu., were expected to be less than 400 million bu. Thus the carryover at the end of the crop year, July 1, 1950, would be 350 million bu. The preliminary survey of the winter wheat crop for 1950 suggested that sown acreage had been reduced as requested but that the crop was in excellent condition and might produce nearly as much as in 1949.

The cotton crop of 16,034,000 bales was the largest since 1937 and the sixth largest on record. The Brazilian crop was expected to be smaller than in 1948.

A crop of 401,962,000 bu. of white or Irish potatoes was produced, compared with 454,654,000 bu. in 1948, even though the harvested acreage was the smallest since 1878 and less than the official target. Nevertheless, an estimated $50 million to $60 million support programme was under way with prices being supported at 60% of parity against 90% in 1948. The average yield of 211 4 bu. per ac. was not much below the record 215·5 bu. of 1948, and far above the 145 5 bu. ten-year average. Maine had a record yield of 450 bu. per ac

Livestock Production The amount of livestock increased in 1949. The reasons differed for each type of animal, but the record abundance of feedstuffs was recognized as a principal factor. The expansion in livestock and its products during 1949 was sufficient to counterbalance the moderate decline in overall crop production, giving a total agricultural production volume for 1949 equal to the record 1948 production.

All cattle at the beginning of the year totalled 78,945,000 head, compared with 78,126,000 head a year earlier, but approximately 10 million head more than before World War II Of that total, 24,450,000 head were milch cows, as against 25,039,000 a year before The slaughter of about the same number of cattle for beef at slightly heavier weights than in 1948 provided an estimated 10,880 million lb of beef and veal, compared with 10,600 million lb. in 1948. A new record for prize fat steers was set up when the grand champion at the Chicago International was auctioned for $11 50 per lb

There were 57,139,000 head of pigs on U S. farms at the beginning of the year, an increase from 55,028,000 head in 1948. The major spring pig crop was 59,039,000 head, well above the 51,266,000 head of a year earlier, and the autumn pig crop was estimated at 37,262,000 head, compared with 33,921,000 head a year before. During 1949 10,650 million lb. of pork was produced as against 10,246 million lb. in the previous year. At the end of the year it was estimated that pork production in 1950 might approximate 11,500 million lb , a result of the increased autumn pig crop of 1949 plus an estimated increase to 62 5 million head in the spring crop

TABLE VI -CONSUMPTION OF NITROGENOUS FERTILIZERS
(thousand metric tons)

July-June Years	United Kingdom (a)	Continental Europe (b)	U S A.	Canada	Oceania	World total (b)
1946-47	173	1,035	711	26	11	2,400
1947-48	217	1,243	806	25	14	2,920
1948-49	230	1,389	866	30	13	3,291

(a) Including dependent territories (b) Excluding U S S.R
SOURCE *Monthly Bulletin* of the Food and Agriculture Organization.

TABLE VII.—INDEX NUMBERS OF THE VOLUME OF U.S. AGRICULTURAL PRODUCTION THROUGH TWO WAR PERIODS*
(1935-39=100)

	1915	1920	1925	1930	1935	1940	1945	1946	1947	1948	1949
Crops											
Food grains	147	126	95	109	81	110	155	164	197	190	165
Feed grains and hay	126	149	128	83	91	114	144	172	131	206	182
Cotton	86	100	122	105	81	95	68	66	93	117	126
Tobacco	80	104	95	113	89	101	137	160	145	136	137
Vegetables	35	51	74	91	92	110	142	158	141	144	144
Fruits and nuts	73	76	74	89	95	110	113	133	129	127	135
Sugar crops	73	98	73	85	89	104	94	103	110	89	99
Total Crops	95	102	99	96	89	107	122	135	136	154	148
Livestock.											
Meat animals	92	99	107	100	90	118	147	145	145	130	133
Poultry and eggs	78	78	93	106	92	109	170	153	157	153	163
Dairy products	70	72	85	94	98	105	119	120	117	114	117
Total Livestock	81	85	96	99	93	112	141	137	137	130	133
Grand total	86	92	97	98	91	110	134	136	136	139	139

* Estimates by the U.S. Department of Agriculture, 1949 is provisional

of 1950. In great contrast with the record high price of $31.85 per cwt. on the Chicago market in Aug. 1948, average pig prices in 1949 remained below $20 per cwt. and in December declined to the lowest price for the year at $14·80 per cwt.

Sheep on U.S. farms at the beginning of the year, 31,963,000 head, were the smallest recorded number, having declined from 34,827,000 head the previous year and more than 50 million head prewar. Consequently, the 1949 lamb crop was a very small one of 18,906,000 head and provided only 600 million lb. of lamb and mutton in 1949, as against 753 million lb. the previous year.

The 24,450,000 milch cows on U.S. farms at the beginning of 1949 represented a decline from the 25,039,000 head in 1948, but it was estimated that the end of 1949 would show an increase. A result of the very heavy feeding of the smaller number of cows from the abundant harvests of 1948 and the fine pastures of 1949 was that milk production per cow reached record levels, and total production for the year was about 118,000 million lb., 2% more than in 1948, with still larger production expected in 1950. Prices of most dairy products declined in 1949, sharply at wholesale, very moderately at retail, and the government continued to accumulate butter and dry milk powder in large amounts in its price subsidy operations.

There was a large poultry population during 1949, hens on farms at the beginning of the year numbering 448,838,000, compared with 461,550,000 head a year before. Chickens raised in 1949, excluding commercial broilers, were 749 million head, as compared with 637 million head the previous year. Broiler production continued at a high level.

The steady decrease in the number of horses continued—there were 5,921,000 head on farms in 1949 as against 6,589,000 head in 1948. Mules were 2,353,000 head, as against 2,541,000 head the previous year.

Food Stocks and Exports. Food stocks continued to increase in 1949 in the major exporting countries. Exports reached very high levels during the early part of the year but appeared to slacken in the latter part. On July 1, grain stocks in the four principal exporting countries were at 72·8 million short tons, 35% larger than the average for five previous years. Of that total about 52 million tons were in the U.S., Argentina held 15% of the total, Canada 9% and Australia 4%.

Food exports by the U.S. in 1948-49, mostly to countries working with the Economic Co-operation administration or to occupied areas, amounted to about 49,521 million lb. Wheat made up more than three-fifths of the total; other grains accounted for about one-fifth.

Farm Prices. Farm prices continued to decline in 1949. In December, the index of prices received for all farm products stood at 236 (1909-14=100), as compared with 268 a year earlier. Even the maintenance of that level was largely due to government subsidy programmes; although some prices were below subsidized prices, the official programme appeared to have much weight in preventing some farm prices from falling.

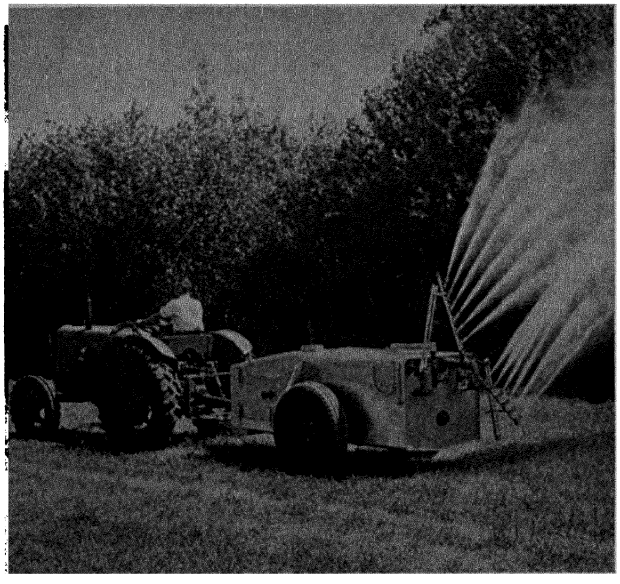
Farm Income. Late in the year it was estimated that the total gross farm income for 1949 would be about $32,000 million, about 10% less than in 1948. This gross income included not only cash income from marketings, but government payments, value of home consumption, rental value of dwellings and the expenses of agricultural production. Total farm production expenses amounted to about $18,000 million, only 3% less than the $18,600 million of the previous year. Realized net income was estimated at $14,000 million, compared with $16,700 million in 1948. Cash receipts from marketings in 1949 were estimated at about $27,700 million or 9% below receipts in 1948. Although both crops and livestock were marketed in a slightly larger volume than in 1948, total crop receipts were estimated at $12,500 million, that is, a 7% decrease from the 1948 level, and livestock and its products at $15,200 million, down 11% from 1948. Nevertheless, the income, credit and debt structure of U.S. agriculture continued to appear favourable.

Farm Land Values. Farm real estate in the U.S. declined in value by about 6% in the year ending Nov. 1949, as compared with peak values a year earlier. The decline was irregular, amounting to 10% to 14% in some mountain and western states, whereas a few midwestern states recorded an increase. The amount of funds available for farm mortgage financing decreased as farm prices declined.

Farm Population. According to a preliminary estimate at the beginning of 1949, the farming population of 27,776,000 constituted about 19% of the U.S. total of nearly 150 million; the agricultural group increased compared with 1948, when it was 27,440,000 persons.

Farm Labour. At the end of 1949 7,150,000 persons were employed on farms, almost the same number as a year before, but below the peak employment for the busier part of the agricultural year when slightly more than 12 million persons were employed, of whom more than three-quarters were family workers. Not only was the number of persons employed in agriculture in 1949 about 3% less than during the previous year but farm labour was slightly less expensive in 1949 than in recent years.

Farm Machinery. The farm machinery supply situation improved in relation to demand, although prices were the highest on record. The mechanization of U.S. agriculture continued at an unparalleled rate. The number of tractors on farms at the beginning of the year was 3·5 million, 281% of the prewar level and 350,000 more than a year earlier, although the cost of using tractor power was higher than in any previous year. Used machinery declined in price. Exports of farm machinery were higher in early 1949 than before.



A modern tractor-driven spray which was demonstrated in 1949 for use against tree pests.

Commodity Credit Corporation. This very important financing organization of the Department of Agriculture carried on three major programmes during the year 1948-49: price support, supply and foreign purchase. During the year it received additional legislative authority to expand its grain storage activities and did so, particularly with reference to corn, contracting for more than 250 million bu. of new storage space, most of which was used for storing corn taken over by the government under subsidy operations for the 1948 crop.

Under farm subsidizing operations, the Commodity Credit corporation at the end of October had $3,148,577,435 (of its authorized $4,750 million borrowing authority) invested in farm commodities. It held at that time an inventory of $1,692,478,677 worth taken over under price support and was additionally committed under loan and purchase agreements to the possible extent of $1,456,098,758.

Commodity Trading. Activity in commodity markets declined in 1948-49, particularly with regard to wheat and cotton. The Commodity Exchange authority continued to request legislation to extend its supervision to future trading in 11 commodities not already covered, for authority to fix minimum margin requirements on speculative transactions and the registration of commodity trading advisory services.

Agricultural Legislation. The Brannan Proposal (by Charles Brannan, secretary of agriculture) of April 1949 did not become law but it was the most discussed farm legislative proposal of the year. The major farm organizations and agricultural leaders, in and out of office, disagreed as to its merits. It was a price subsidy plan based on an income objective. A farm income standard was to be set as a minimum goal under which farm purchasing power would be maintained at least at the same level as the average for the first 10 of the most recent 12 years. For 1950 this would require an income of $26,200 million, about 15% less than the $31,000 million of 1948. This minimum was to be used only as the starting point for computing commodity price subsidies.

Definite price subsidies were to be assured on corn, cotton, wheat, tobacco, milk, eggs, chickens and the meat-producing animals. They accounted for about 70% of cash farm receipts. Other commodities were to be supported within the limits of available funds.

Two major methods of support were to be used. On storable commodities, loan and purchase agreements were to be continued. On perishable commodities the entire production was to go to the consumer through the usual market channels. However, if the average price received for a given commodity proved to be lower than the official subsidized price level, the producer was to receive a compensatory production payment for the difference.

The Agricultural act of 1949 maintained rigid price subsidies at 90% of parity on the six basic crops, corn, cotton, wheat, rice, tobacco and peanuts. After 1950 there was provision for "flexible" or lower minimum subsidies, depending on the size of the total supply of the crop in relation to the normal supply. The 1949 act included mandatory price subsidies for wool, tung nuts, honey, intermediate and late Irish potatoes, milk, butterfat and the products of milk and butterfat. The level of subsidization was to vary with the different commodities and the secretary had the power to set the specific level.

Other agricultural legislation of 1949 resulted in the ratification of the International Wheat agreement, the amendment of the Charter of the Commodity Credit Corporation and provisions for rural housing. (*See* also BEEKEEPING; CHEMURGY; COCOA; COFFEE; DAIRY FARMING; FERTILIZERS; FOOD SUPPLY OF THE WORLD; FORAGE CROPS; FRUIT; GRAIN CROPS; HOPS; LIVESTOCK; NUTS; POULTRY; ROOT CROPS; SOIL CONSERVATION; SPICES; SUGAR; TEA; VEGETABLES; WHEAT; WOOL.) (J. K. R.)

AIRCRAFT MANUFACTURE. British supremacy in the manufacture of aircraft powered by jet propulsion was established during 1949. Further, much was done to improve the standard of military aircraft and the high quality of both these and of British civilian aircraft led to world-wide export orders, exceeding a record of £33 million in value.

The giant 130-ton Bristol Brabazon I, the world's largest air-liner, flew for the first time in 1949, as did many other new aircraft including the Armstrong-Whitworth Apollo, the Handley Page Hermes V, the new version of the Vickers-Armstrong Viscount and the Cierva Air Horse helicopter.

The aircraft industry made many additions to Britain's air strength, notably the first British jet bomber, the English Electric Canberra which had the speed of a fighter; the first British jet night-fighter, the de Havilland 113; and two new fighters thought to be capable of sonic speed, the Hawker 1052 and the Supermarine 510.

The world's first four-jet air-liner, the de Havilland Comet, flew for the first time on July 27, 1949. Shortly afterwards it flew at 80% of the speed of sound, and on Oct. 25 it flew to Castel Benito, Tripoli, and back at an average speed of 450 m.p.h. The whole journey took the same time as a single trip on a scheduled air service.

The de Havilland Goblin and the Bristol Theseus were two aero engines which successfully underwent remarkable endurance tests in 1949, establishing their serviceability and smooth operation. Reports of the Bristol Proteus, however, were not so good and some delay was forecast in the perfection of this type of engine, which was to power the 140-ton Saunders-Roe Princess class 10-engined flying boat and the 8-engined Bristol Brabazon II. It was eventually scheduled for delivery in April 1951.

Details were given in 1949 of a revolutionary method of aircraft construction which was to be used in the Fairey 17 anti-submarine machine by the Fairey Aviation company. This process involved a reversal of the usual practice in that the outside skin of the aircraft was accurately shaped in "envelope" jigs before any of the inside structure was fitted. This system, a patented one, had taken four years to develop. It was claimed that it eliminated even minor errors of construction, made complete interchangeability of parts possible from the prototype aircraft onwards and enabled emergency large-scale production to be begun speedily.

United States. The replacement programme undertaken by the air lines immediately after the war approached completion and the deliveries of civil transports had fallen from 433 in 1946 to approximately 160 in 1949. In spite of these negative factors, however, the aircraft manufacturing industry showed a steady recovery from the 1946 low level because of the increasing demand for new military aircraft. Employment in the primary aircraft industry which had dropped to a low of 180,000 in 1947 had risen to approximately 218,000 by the middle of 1949.

The unstable state of world affairs led congress to appropriate very large sums of money for research and development and for new types of aircraft. During 1949 this resulted in substantial production orders for machines to replace World War II types in air force and navy squadrons.

Certain technological advances of the past few years were having a profound effect upon aircraft manufacturing during 1949. During the war the emphasis had been almost entirely on production. Intensive research and development during the immediate postwar years had resulted in drastic design changes which were being reflected in manufacturing processes and production. The armed services were in 1949 replacing their obsolete equipment with new aircraft of tremendously improved performance.

The most radical change in aircraft manufacturing was due to the introduction of jet-type power plants. This necessitated a complete redesign and retooling in air-frame and aircraft engine manufacturing plants.

The availability of jet and rocket power plants and the greatly increased aerodynamic knowledge due to intensive postwar research greatly extended the speed possibilities for aircraft. Already the so-called "sonic barrier" (approximately 760 m.p.h. at sea level) had been exceeded by piloted aircraft. Such speeds, however, impose demands upon human pilots that are physically impossible to meet. More and more effort, therefore, had been focused on the design and manufacture of pilotless aircraft or guided missiles. During 1949 many manufacturers found that they were giving more attention to the design of guided missiles than to conventional aeroplane types.

Aircraft manufacturing was also made more difficult by the increasing size and complexity of modern aeroplanes. In 1939 the average bomber weighed in the neighbourhood of 20,000 lb. (empty), a fighter 5,000 lb., a trainer 2,000 lb. and a transport about 12,000 lb. By the end of World War II 50,000-lb. bombers and transports and 10,000-lb fighters were in service. During 1949 at least one bomber of about 150,000 lb. (empty) was in production. Jet fighters of about 12,000 lb. were being built and the average four-engine transport in air line service weighed about 50,000 lb empty.

The net result of the increase in aeroplane size and complexity was greatly to increase the unit cost of aircraft. Where in 1939 a twin-engine, 23-passenger transport cost about $150,000, a four-engine 50-60 passenger air liner of 1949 cost in the neighbourhood of $1,000,000. The navy estimated that, on the average, each jet-powered aircraft procured during the 1949-50 fiscal year would cost $829,000. The air force figure was $900,000. Mass production would, of course, materially reduce these figures.

During 1949 the aircraft industry did about $1,700 million worth of business, the largest share of which came from military buying through government agencies. Output included approximately 2,500 military aircraft, 3,400 private type planes and 160 civil transports of all types. For reasons of security military aircraft production was computed in terms of air-frame weight rather than the number of planes. On this basis the production for the year would reach approximately 28 million lb. of air-frame weight as compared with approximately 25 million in 1948.

The basic aircraft industry at the end of 1949 consisted of 34 manufacturers of complete aircraft, with 39 plants, and 13 manufacturers of aircraft engines, operating 14 plants. The balance of the industry consisted of a large number of propeller and accessory companies backed up by suppliers of parts and materials as well as subcontractors and manufacturers of sub-assemblies. The latter categories were of increasing importance. In the production of the Boeing B-47 bomber for example, 48% of the total cost went to hundreds of subcontractors, and in the manufacture of the General Electric J-47 turbo-jet engine it was estimated that 280 subcontracting companies participated.

The 3,400 output of private planes was a great disappointment to those who before the end of the war predicted a probable production of 50,000-60,000 a year by 1950. The market failed to develop because the private aeroplane was not developed to the point of real usefulness at low cost. At the end of 1949 there was nothing in sight that would change this situation and greatly increase the demand.

The demand for commercial transport aircraft had been dropping off steadily as the civil air lines in the U.S. completed their modernization programmes. At the end of 1949 there were approximately 1,100 transport aircraft in service on U.S. domestic and overseas air lines, which appeared to be about the number that the traffic could bear in the immediate future. Some replacements would be required during the next few years, but it was probable that the demands for the next year or two would fall below the 1949 level.

A number of U.S. jet transport designs were being planned. Several years must elapse, however, before interest would be reflected in actual orders for jet transports. Few U.S. air lines could afford to replace existing equipment with jet-powered equipment much before 1955.

In addition to the conventional aircraft types mentioned above, helicopters were a factor in 1949 U.S. aircraft production. A number of new companies had come into the field but over-all production statistics were incomplete. It was estimated, however, that about 200 helicopters were produced in the United States during 1949. Most of them went to the military services for special uses (air-sea rescue work, etc.) but a few went into commercial use for the carriage of mail and small items in isolated districts. (*See* also JET PROPULSION AND GAS TURBINES.) (S. P. J.)

AIR FORCES OF THE WORLD. The outstanding development of the year was the formal ratification through the North Atlantic treaty (*q.v.*) of the policy through which Great Britain was already furnishing jet fighters and engines to nations of the Western Union and their democratic neighbours, under the Treaty of Brussels of 1948. Nations who signed the Atlantic treaty, or were in sympathy with its purposes, had already began to equip their air forces with British Vampire and Meteor fighters. British jet engines were also available to them. France purchased British fighters and was beginning to manufacture British jet engines under licence. Belgium purchased Meteors and Meteor trainers, and the Rolls-Royce Derwent turbo-jets for these were being built at Liége under licence. About 20 Meteors were purchased by the Netherlands where the Meteor trainer was also in use. Netherlands naval aviation was using the British Hawker Sea Fury, and the Fairey Firefly among its piston-engined aircraft. Switzerland purchased 75 Vampires and was licensed to build 100 more, with Goblin engines to be sent from Great Britain. Both Norway and Sweden purchased Vampires; and Sweden was manufacturing the de Havilland and Goblin turbo-jet under licence. Italy ordered 50 Vampires in 1949, to be delivered by March 1950.

The formalizing of the Western Union defence plan included the establishment of a central supply and resources board under the Western Union defence committee. The excellence and availability of British jet fighters and jet engines, together with the fact that they were already being purchased, made their use in western Europe natural. At the same time the western hemisphere would tend to use U.S. equipment.

The U S. was responsible under the North Atlantic treaty for long range strategic bombing requirements, on the basis of existing equipment. British Lancasters and Lincolns, and the coastal-defence Shackletons, were limited in range, though Britain's position in this respect would be improved by the acquisition of American B-29s. The existing plan called for short range attack bombing and fighter defence by Britain, France and the other allied nations. This was being pursued at the end of 1949 to such an extent that the allied nations were receiving fighters from Britain while R.A.F. reserves and overseas units were still using a great deal of wartime reciprocating engine-powered equipment.

Great Britain. The first British jet-propelled bomber, the English Electric A 1 Canberra, was first flown in May 1949. It was powered by two Rolls-Royce Avon turbo-jets mounted in nacelles in the wings. The conventional Avro Shackleton, powered by four Rolls-Royce Griffons with counter-rotating propellers, continued to be the only British bomber developed since the war in the 100,000 lb. class. The Avro 707, a Delta-wing research fighter powered by one Rolls-Royce Derwent, was said to be part of a research programme leading toward a Delta-wing bomber using twin turbo-jets contained in the wing. Handley Page was reported to be working on a jet bomber of unconventional design, and the de Havilland company on a jet bomber which might be based upon its successful civil turbo-jet transport, the Comet.

The Vickers Supermarine 510 was one of the experimental fighter types to appear during the year. It was estimated to have flown at about 660 m p.h. at Farnborough, in September, and to handle well at high altitudes. A Rolls-Royce Nene turbo-jet was the power plant. The experimental Hawker P.1052 was also powered by a Rolls-Royce Nene. The manufacturers claimed an unusually long range for it. The de Havilland Venom F.B.1, first flown on Sept. 2, was powered by a de Havilland Ghost turbo-jet. Its manoeuvrability at altitude, climb and speed were favourably reported and the Venom was known to be an all-round improvement on the Vampire. The Royal Navy's Westland Wyvern torpedo fighter appeared at Farnborough as the first front line military aircraft to be powered by a turbo-prop.

While Vampires and Meteors were the standard fighters of the R A F., the de Havilland Hornet and Mosquito, the Hawker Tempest, the Supermarine Spitfire and the Bristol Brigand continued among the piston-engined aircraft in service for various duties as long-range fighters, night fighters, fighter bombers and light bombers.

In addition to the jet-propelled de Havilland Sea Vampire and Supermarine Attacker, the navy continued with the de Havilland Sea Hornet, Hawker Sea Fury, Supermarine Seafire, Blackburn Firebrand and Fairey Barracuda and Firefly for carrier-based fighting, night fighting, fighter-reconnaissance and bomber aircraft duties. Two new R A F. anti-submarine aircraft were announced late in 1949, the Blackburn Y.A 5 and the Fairey 17.

British gas-turbine development continued intensively during 1949, with definite trends towards increased use of axial-flow designs and higher power in both turbo-jets and turbo-props, and renewed interest in after-burning as a source of additional power. The first British rocket motor made its appearance in 1949, the de Havilland Sprite, giving a thrust of 5,000 lb. for 9 sec. The Sprite was intended for use in the assisted take-off of such aircraft as the de Havilland Comet. Among the new turbo-jets were the Rolls-Royce Avon, the Rolls-Royce Tay turbo-jet, the Armstrong Siddeley Double Mamba (consisting of two Mamba 3s driving a single shaft) and the Napier Double Naiad which was reported under development. Both the Mamba and the Naiad were axial-flow turbo-props. The Bristol Proteus turbo-prop, which was expected to be flown in 1950, was to power the Bristol Brabazon II and the Saunders-Roe Princess, the giant transports. The Armstrong Siddeley Sapphire, latest of the turbo-jets, was reported to be a development of the Metropolitan-Vickers Beryl.

The R.A.F. was using or had ordered principally the Handley Page Hastings (75,000 lb.) as a heavy transport, the Bristol 170 (40,000 lb.) and the lighter Percival Prince and Vickers Valetta during 1949. The civil jet-transport programme proceeded intensively and the possibilities of jet transports in military use and in bomber development were mentioned by observers. The 130-ton Brabazon I was first flown in September; and construction on the Brabazon II and the giant Saunders-Roe Princess flying boat was proceeding. These would be powered by the Bristol Proteus turbo-prop. The first flights of the de Havilland Comet, powered by four Ghost turbo-jets, were successful; and this plane was expected by British and several U.S. observers to have an excellent future Among the turbo-prop civil aircraft to fly first in 1949 were the Handley Page Hermes, heaviest turbo-prop transport at 84,000 lb., and the Handley Page Miles Marathon, at 18,000 lb. Both the Vickers Viscount and the Armstrong-Whitworth Apollo underwent considerable flight testing in 1949

The Westland-Sikorsky S-51 was the only helicopter reported in quantity production for military purposes, a number having been ordered by the Royal Navy.

The Commonwealth. Reflecting the strong research and development programme on military aircraft and gas turbines in Great Britain, Canada and Australia were working on independent designs which might affect the future equipment of their air forces.

In Canada, the Avro Orenda turbo-jet completed more than 750 hr. of ground tests, and was being test flown in a North American F-86A fighter. The CF-100 (formerly the XC-100) was expected to make its first flight early in 1950. The outstanding transport development in Canada was the Avro C-102, powered by four Rolls-Royce Derwent turbo-jets. This aircraft was flown at 500 m.p.h. above 30,000 ft.

In Australia, a twin-jet all weather fighter was reported under development, probably to be powered by Rolls-Royce Tay turbo-jets. Commonwealth Aircraft corporation was licensed in September to produce the Canberra bomber and the Hawker P.1040 fighter. The Rolls-Royce Nene was being manufactured under license in Australia; and the de Havilland company in Australia was manufacturing the Vampire, the standard fighter of the R.A.A.F. (M. H. Sm.; S. P. J.)

United States. Operation " Vittles," until the lifting of the rail blockade of Berlin on May 12 by the Russians, was a major U S. air force activity during 1949. The Berlin air lift had begun operations on June 26, 1948, by flying, in a 24-hr. period, 80 tons of food and other needed supplies into Berlin. The planes during the first days of the project were two-engined C-47s. The amount of supplies flown by air was greatly increased by the addition of four-engined C-54 transports and by May 12, 1949, a total of 195,998 flights had been made by U.S. and British transports, carrying 1,589,567 cargo and passenger tons. With the announcement of the lifting of the rail and road blockade, the combined air lift was gradually inactivated as part of a plan to reduce the scope of operations This phasing out continued until Sept. 30, the closing day of the Berlin air lift. During its 15 months of operation, U.S. planes had massed a total of 591,347 flying



The Vickers-Armstrongs Supermarine 510—a single seater fighter powered by a Nene turbo-jet.

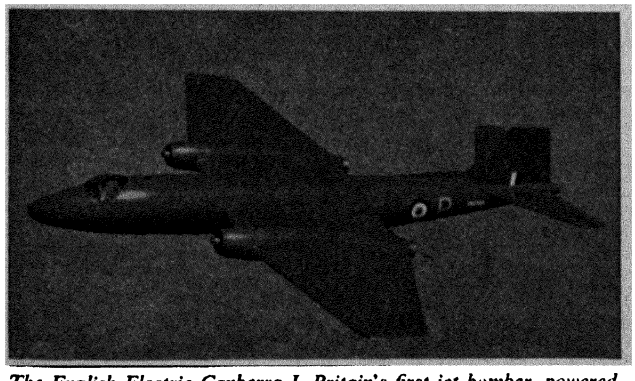
hours and U.S. air lift planes, including navy transports, carried 1,783,826 tons of food, coal and other supplies into Berlin. British planes on the air lift had flown 538,416 tons to Berlin in addition to the U.S. tonnage.

Production of the Consolidated B-36 long-range bomber continued during 1949 and it was announced that a second U.S.A.F. operational group was equipped with the B-36 by June 30. Four J-47 jet engines were installed on a B-36D, giving more than 20,000 additional pounds of thrust to the 21,000 h.p. supplied by the six Wasp-Majors engines with which the pusher-type bomber is equipped. Jet engines were being added to all existing B-36s.

The nonstop around-the-world flight of an air force B-50 bomber, the " Lucky Lady II," Feb. 26 to March 2, 1949, demonstrated progress in increasing the range of aircraft by in-flight refuelling and fuel conservation by cruise control techniques. The B-50 left Carswell air force base, Fort Worth, Texas, Feb. 26, headed east and landed at the take-off point after being aloft 94 hr. 1 min. B-29 tanker planes refuelled the " Lucky Lady II " by a flexible-hose, gravity-feed system at four points along its global route of more than 23,000 mi.

In October, the air force revealed a new flying boom in-flight refuelling method which eliminates some of the difficulties encountered in the gravity-feed system. In using this new technique developed for the air force by the Boeing Airplane company, two planes fly in formation and a controlled, telescoping boom carried beneath the tanker plane, is flown into position by the tanker plane and inserted into a socket in the nose of the receiver plane. The fuel is transferred under pressure.

The Boeing B-47 Stratojet, a high-speed medium bomber powered by six jet engines, established a record flight for bombers by flying from Moses Lake, Washington, to Andrews field, Camp Springs, Maryland, on Feb. 8, 1949, in 3 hr. 46 min. The 125,000 lb. bomber, accepted by the air force late in 1948, utilized a new type of landing gear with wheels mounted in tandem or bicycle fashion.



The English Electric Canberra I, Britain's first jet bomber, powered by two Rolls-Royce Avon axial flow gas turbines.

Four new jet fighter planes were among the new aircraft to be test flown during the year. One of these, the XF-92A, formerly designated the Model 7002 research plane, was a radically designed fighter using the Delta wing for the first time. Experimentation and evaluation of the aerodynamic characteristics of the Delta wing, which has a sweepback of 60°, had previously been conducted in wind tunnel tests.

The Republic XF-91 interceptor, and the Lockheed XF-90 penetration fighter, made initial flights at Muroc air force base, California. Flight evaluation of the XF-94, a radar-equipped advanced design of the Lockheed TF-80, was also made.

Two trainer aircraft were test flown in September. The North American T-28, single-engined, low-wing monoplane, was designed to replace the T-6 Texan, which was used widely in training pilots during World War II. The T-28 included several improvements over its predecessor. The T-29, modification of the Convair Model 240 transport, was designed to train student navigators. This flying classroom had 14 stations, each equipped with a Loran scope, radio compass, altimeter, air-speed indicator, drift meter and map table.

Other new aircraft included the XC-123, a twin-engined assault transport, and an experimental bomber, the Martin XB-51. Powered by three turbo-jet engines, the XB-51 was the first postwar aeroplane specifically designed for the destruction of surface targets in co-operation with ground forces. The XB-52, which was under development, was a jet long range heavy bomber.

The total number of officers, and airmen on duty in the U.S.A.F. reached 419,919 as at Aug. 31, 1949. This total represented full time military personnel, regulars and reserves, on active duty.

As at July 1949 there were 9,400 U.S.A.F. planes in active status including postwar types. Included in this total were combat and utility aircraft. Combat aircraft included bombers, fighters, reconnaissance, combat amphibian and search and rescue planes performing the mission for which they were designed. Utility aircraft included transport, trainer and communications aircraft and former combat aircraft.

A new distinctive blue uniform, identical for officers and airmen except for insignia of rank, was approved by the air force at the beginning of the year. All airmen were to be equipped with new uniforms by Sept. 1, 1950.

The headquarters of four numbered air forces (the 1st, 10th, 14th and 15th) and several tactical units in the United States were re-located and six tactical groups were scheduled to be inactivated in accordance with a programme of economies announced in August by the Department of Defence. Under this plan, nine bases were declared surplus to the needs of the U.S.A.F.; and disposal, under the provisions of public law 152, 81st congress, was initiated. The group structure of the air force was reduced from 54 to 48. In Oct. 1949, the congress passed legislation authorizing a group structure of 58. (H. S. VG.)

U.S. Navy. Reduction of the aeronautic organization of the U.S. navy to the level permitted by the budget for fiscal 1950 began early in 1949. By July, the number of operating and support aircraft was lowered to 10,500, aviation officers to 12,205 and enlisted rates to 63,490. By the same month, 3 battle, 5 attack, 3 light and 3 escort carriers and 14 aircraft tenders were operating with the fleet; active aviation shore stations numbered 60; overseas bases, 13. Several Pacific bases were closed and some Atlantic bases used in World War II were re-activated.

Flight training was concentrated at Pensacola, Florida, and Corpus Christi, Texas, and technical training at Memphis, Tennessee. The F8F fighter, AD attack plane and P2V patrol plane were introduced in flight courses and jet fighters were introduced in operational training. The organized reserve was expanded to 7,800 officers and 21,500 men. Training was conducted on a year-round basis and 15 air groups completed two-week cruises aboard carriers.

On March 4, the " Caroline Mars," one of four large seaplanes operating with fleet logistic support wings, Pacific, broke a record by carrying 263 passengers in addition to her crew of 6, from San Diego to Alameda, California. The same month, a P2V-3C patrol plane with a 10,000 lb. bomb load, took off from the carrier " Coral Sea " in the Atlantic, flew across the United States to drop its bomb load, and returned nonstop to Patuxent River, Maryland, after a flight of more than 4,000 mi.

In support of the Berlin air lift U.S. navy squadrons VR-6 and 8 participated in the air lift from Nov. 1948 to June 1949. VR-8 not only carried the most tons in any month, but with VR-6 a close second, led all air force and navy squadrons in the efficient use of aircraft over the entire period.

The former seaplane tender " Norton Sound," placed in operation early in the year as a test ship, aided in solving many launching and directing problems in the field of guided missiles. Wind tunnel facilities and equipment were improved. Research in turbo-jet engines increased performance. The jet fighters F2H Banshee, F9F Panther, and F6U Pirate, and conventional attack planes AD-3 Skyraider and AM-1 Mauler, which was capable of carrying a heavier bomb load than any known single engine plane, were operating with the fleet. Helicopters had replaced single-engined seaplanes on battleships and cruisers. Work was begun on the modernization of three carriers and installation of more powerful deck gear for the operation of larger aircraft. (C. T. D.)

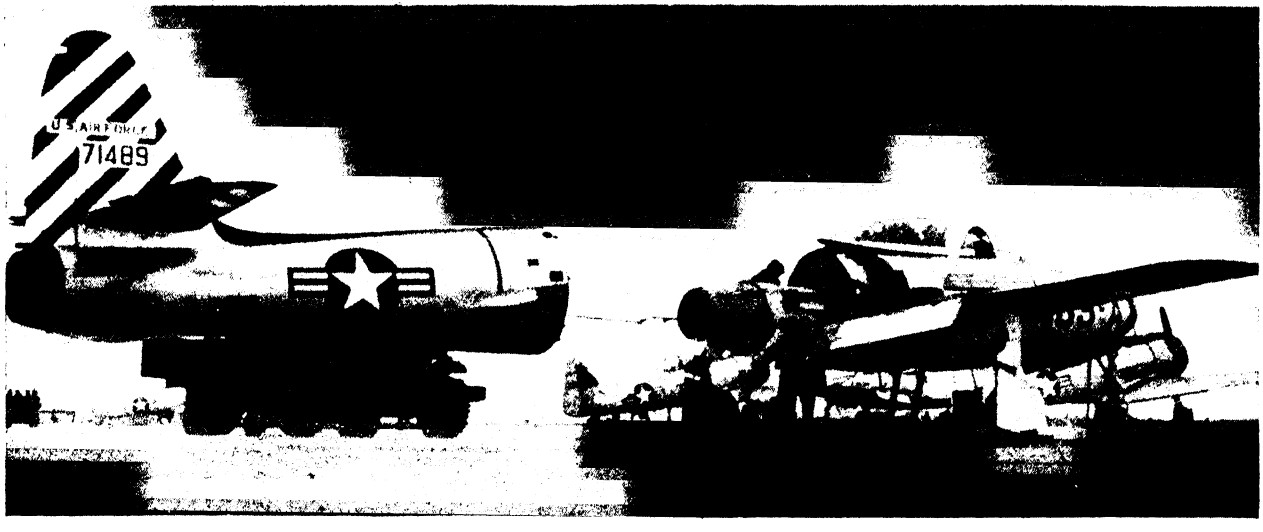
U.S.S.R. The main sources of information regarding aeronautical progress in the U.S.S.R. were reports of observers of Soviet aircraft on the traditional May day and Aviation day displays, the latter of which was in July 1949. No close-up inspection of aircraft was allowed. Visitors had to be content with what they could see as the machines flew overhead. Because of the variety of types that had been observed on such occasions there was no question but that the Russians were exploiting their knowledge of jet aircraft and jet engines to the limit. In this they were unquestionably aided by large numbers of Germans who had been picked up in the Soviet zone of Germany and had been at work for the Soviet government during the past five years.

It was known that the Russians had been heavily occupied with the development of the guided-missiles projects based on German wartime research. This lent weight to speculation that development of liquid fuel rocket engines on a considerable scale was under way, both for piloted aircraft and for guided missiles. The Russians claimed to have flown an experimental jet-powered aeroplane at speeds greater than the speed of sound. There was, however, no proof of this accomplishment.

In the bomber categories, only two new types were definitely identified, the Ilyushin four-jet bomber and the Tupolev twin-jet attack bomber. They appeared to be in the medium bomber category. The best guess was that the range of the Ilyushin four-jet bomber was approximately 1,500 mi. with a bomb load of about 5,000 lb. It was thought that the Tupolev twin-jet bomber might be capable of carrying a 5,000 lb. bomb load somewhat less than 1,000 mi., and that it had a speed of at least 445 m.p.h.

In the jet-fighter category the work of only three designers had been definitely identified, Lavochkin, Mikoyan and Gurevich (MIG), and Yakovlev. Lavochkin had a long background of design of successful single-seat fighters of conventional types. As early as 1947, an LAV-9 fitted with auxiliary jet and rocket power plants was reported in the Aviation day display. Newer LAV jet designs had also been seen but details were entirely lacking. The MIG-9 twin-jet fighter by Mikoyan was a single-seat monoplane of conventional configuration. The engines were believed to be German axial-flow type turbines developing a thrust of approximately 3,500 lb. each. Its estimated speed was of the order of 600 m.p.h. Two Yakovlev jet fighters were described. The YAK -15 was apparently based on an earlier design (the YAK-3) in which the conventional reciprocating engine had been replaced by a Jumo-004H axial-flow turbo-jet engine mounted underneath the fuselage. Other dimensions and weights were lacking. The maximum speed was probably in the 500 m.p.h. range. The YAK-17 was a later development—resembling in general the Republic F-84 Thunderjet of the U.S. air force. The probability was that this machine was in the 600-650 m.p.h. class. It appeared to be the best of the 1949 U.S.S.R. fighter designs.

Reports continued of production of a Tupolev modification of the B-29 bomber. A transport modification, the TU-70, was also reported. This was a four-engined type designed for



The jet engine of a Republic F-84 Thunderjet being removed at Falmouth, Massachusetts. The Thunderjet is capable of reaching a speed of 600 m.p.h. and was one of the three jet fighters for which the United States A.A.F. had placed extensive orders.

72 passengers and a crew of 4 or 5. Ilyushin also appeared to be in production on cargo and transport types.

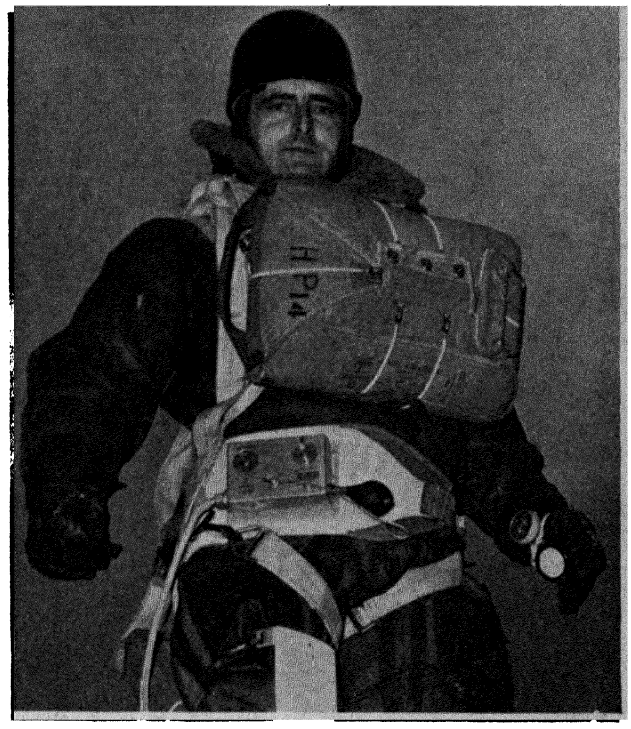
The total number of aircraft in the Soviet military and civil air fleets was entirely unknown as was the 1949 rate of aircraft production. There was undoubtedly a very considerable aviation activity within the borders of the U.S.S.R. Designers appeared to be competent and they seemed to have access to up-to-date information from Soviet research laboratories and from those outside the U.S.S.R. The chances were good that a large well manned air fleet was in being, backed up by an industry of considerable capacity, but British and U.S. sources were in agreement that, at the close of 1949, the Western Union powers had a marked edge in technological development.

Europe. *France.* The French air force in 1949 was still equipped largely with surplus aircraft of World War II, except for a few British de Havilland Vampire jet fighters. Modernizing was discussed and reported upon, but action was slow. Purchases abroad were expected to provide most new types, such as jet fighters; but in the autumn there was another political crisis with changes in the defence ministry and a new plan was reported late in the year which would involve a considerable overhauling of the nationalized aircraft industry.

The outstanding French jet aircraft of 1949 was the Leduc O.10 ram-jet, which made its first powered flight on April 21. This plane had left the ground only on the back of a Languedoc 161 air liner, but it might be fitted with rockets for take-off power. The Leduc ram-jet engine propelled it at more than 450 m.p.h. at half power on its first powered flight. The Dessault MD 450 Ouragan fighter, powered by a Rolls-Royce Nene turbo-jet built by Hispano Suiza in France under licence, appeared to be the choice under the new plan as the standard French intercepter fighter. The S.N.C.A. (Société Nationale de Constructions Aéronautiques) du Sud-Ouest S.O. 6020 Nene-powered fighter would probably be built to the number of several hundred as all-weather fighters under the new plan. Experimental jets of the S.N.C.A. du Nord were the Nord 1600 and the Nord 2200. The latter was designed as a carrier-borne fighter. The Bréguet 960, under construction, was another naval fighter-bomber, with a Nene turbo-jet in the rear and a Mamba turbo-prop in the nose.

The jet engines used in military aircraft in France were British, either imported or manufactured under licence. French development of the gas turbine began in 1946. The S.N.E.C.M.A. (Société Nationale d'Etude et de Construction de Moteurs d'Aviation) ATAR 101B turbo-jet, at 5,000 lb. thrust, and the TB 1000 turbo-prop of the same company, at 1,220 shaft h.p., were in bench test stages. The Compagnie Electro-Mécanique TGAR 1008 turbo-jet, at 4,850 lb. thrust, and its TGA-1 *bis* turbo-prop, at 2,410 shaft h.p., were in the prototype testing stage. The Rateau SRA-101 turbo-jet, made by the S.N.E.C.M.A. company, developed 8,820 lb. thrust. New piston-engine development in France was almost at a standstill at the end of 1949 and the engine industry was considered to be in a stage of transition to emphasize gas turbines.

Italy. The Italian air force, by peace treaty provisions, was limited to 200 defensive fighter and reconnaissance aircraft and 150 trainers and transports. Front line aircraft in 1949 were surplus Supermarine Spitfires from Britain and Mustangs and Lockheed Lightnings from the U.S. The aircraft and engine industries in Italy made slow progress in recovering from war damage and were producing only a few light transports, light aircraft and military trainers at the end of 1949. Among Italian transports, the Breda-Zappata B.Z. 308 transport for 55 to 80 passengers, powered by four Bristol Centaurus engines, was still undergoing its flight tests in 1949. This was the most advanced transport being built in Italy. The Argentine government ordered 10 of these late in 1949.



A new parachute manufactured in England and demonstrated in Nov. 1949, which opened automatically at a pre-set height.

The engine manufacturers were making light engines principally, but Alfa Romeo and Isotta-Fraschini continued to develop engines for transports and trainers. Isotta's two new engines, the 8-cylinder air-cooled Cypselus at 400 h.p. and the 18-cylinder liquid-cooled Gypagus at about 1,600 h.p. the latter with its latest Delta at 800 h.p., indicated the state of Italian engine development at the end of 1949. Alfa Romeo was producing excellent engines in the medium and light class but little activity in jet propulsion was in evidence.

The industry was in so weak a state that both the Caproni and Cant companies were reported to have been closed down; but a new development late in the year placed the Fiat, Macchi, Ambrosini and Alfa Romeo companies in a new position. These firms formed a company to sign contracts with the British de Havilland company to manufacture Vampire fighters and Goblin turbo-jet engines. An order for 50 Vampires by the Italian government, to be delivered by March 1950, would furnish the air force with jet fighters until the Italian jet-building programme should get under way. (*See* also AIRCRAFT MANUFACTURE; AIRPORTS; AVIATION, CIVIL; JET PROPULSION AND GAS TURBINES; MUNITIONS OF WAR.) (M. H. SM.; S. P. J.)

AIRPORTS. The International Civil Aviation organization (I.C.A.O.) in 1947 issued recommendations for standard and recommended practices as to airport size and capacity. These standards, although not binding on the member nations of I.C.A.O., proved a useful guide to those authorities planning new airports or extensions to existing ones.

Great Britain. By 1949, only one airport in Great Britain, London airport, fell into the first category (A.1); *i.e.*, it had a main runway not less than 8,400 ft. in length, and could bear a single wheel load of at least 100,000 lb. at 120 lb. per sq. in.

The concreting of the six-runway layout at London airport



The 2,750 yd. runway at Filton, near Bristol, which was specially constructed for the Bristol Brabazon.

was almost completed; but only one triangle was serviceable and much additional work to the lighting, drainage and radio aids remained to be carried out before further runways could be used. Development of the central terminal area was begun and four further temporary hangars were completed during the year.

The air traffic control problem became more acute, particularly in the London area, where London and Northolt, both handling heavy density traffic, proved to be too close under instrument flying conditions. Additional points of entry and exit for the Metropolitan Control zone were provided, an inner zone was created and the holding area for airliners waiting to land at Northolt was moved to near Bovingdon, Hertfordshire. It was announced that all civil airlines now operating from Northolt would be re-based at London airport by the end of 1954.

Another development in the London area was the taking over of responsibility at Stansted, Essex, by the Ministry of Civil Aviation, which intended to develop it as a main diversion and charter flying base. Other British airports showed little change, except that at Manchester (Ringway) one runway was extended by over 1,000 ft. and a new terminal building opened; the stressing of the main runway at Prestwick, the Scottish transatlantic airport, for airliners of Stratocruiser weight was completed; and Glasgow (Renfrew) had its runways re-surfaced. Although not a civil airport, Bristol (Filton) was the scene of the Brabazon's first flight, and the special runway and the assembly hall (largest structure of its kind in the world) also received B.O.A.C.'s fleets of Constellations and Stratocruisers for maintenance.

Belgium. At Brussels (Melsbroek) work was concentrated on building four double hangars to occupy 4,800 sq. yd. A start was made on developing Antwerp (Deurne) as an international air freight centre.

Finland. It was announced that the airport for Helsinki, Malmi, was to be replaced by a new one at Seutula, to be ready for the Olympic Games in 1952.

France. The airport construction work vote was cut by Fr. 85 million, but the planned development of Paris (Orly) for intercontinental traffic was continued. The basic layout was to be similar to that of London airport; but two of the three runways in use by the end of 1949 were parallel.

Germany. The Anglo-U.S. airlift of 1948-49 reached such proportions that the three receiving airports in Berlin dealt with the heaviest density of aircraft movements in the history of aviation. At the British-controlled base, Gatow, landings reached a peak of one every 90 secs. (900 per day)—three times the maximum traffic at New York (La Guardia), formerly the busiest in the world. The original steel-mesh runway was extended by 1,500 ft. of concrete, and, parallel to this, a new 6,000 ft. concrete runway was constructed. The airports from which Berlin was supplied all benefited materially from the airlift: Hamburg (Fuhlsbüttel) had a new 6,000 ft. permanent runway in use, and Frankfurt (Rhein-Main) a second runway of 8,200 ft. under construction.

Italy. The airports of Rome (Ciampino) and Naples (Capodichino) were being improved with funds provided under the European Recovery programme—Ciampino had an imposing passenger-handling building in use—but an entirely new site for a Rome intercontinental airport was selected at Fogere, on the Tyrrhenian coast.

Netherlands. The fine steel-and-glass terminal building at Amsterdam (Schiphol) came into partial service in May 1949 with the transfer of all passenger arrivals and departures and with the opening of the two-floor restaurant above. The new control tower was completed but technical equipment was awaited. Concreting work was completed on the new north-south runway.

Norway. An aviation commission, in June 1949 recommended new airports at Herdla, Gosse and Bodo, the improvement of Oslo (Fornebu) and Stavanger (Sola) and the retention of the existing seaplane bases. Gardenmoen, a major military base 56 km. from Oslo, was scheduled to take the long-haul commercial traffic.

Portugal. A seaplane dock, 460 m. in length, was partially constructed at Cabo Ruivo (four mi. upstream from Lisbon); and Portela, the land airport, had a new administrative block under construction.

Sweden. The Stockholm (Halmsjon) project for an intercontinental land airport achieved limited development in 1949. By June, some Kr.10 million had been expended, mainly on blasting operations.

Switzerland. Geneva (Cointrin) would remain unique among Europe's major airports in retaining a single broad 6,500 ft. runway. A new passenger handling block with a single long frontage and a hangar to house up to 10 four-engined aircraft were opened in May 1949. Zurich (Kloten), an entirely new postwar enterprise, had three runways all in use by the same date; and the permanent terminal buildings were due for completion in 1950. (G. D. H. L.)

United States. The 1949 Civil Aeronautics administration (C.A.A.) revision of the annual three-year forecast of constructions and improvements contemplated under the Federal Airport plan called for the building or improvement of 4,977 airports at a cost of $1,115,300,000 of which $510,600,000 would be federal funds and $604,700,000 state and local contributions. Under this programme for 1949-53, 2,794 new airports would be constructed and 2,183 improved. By the end of 1949 congress had appropriated $117,500,000 toward the total of $500 million it authorized in 1947. The projected programme included plans for a second large airport in the Washington area to relieve congestion at the Washington National airport.

The Aircraft committee of the Munitions board approved the C.A.A. sponsored slope-line system of approach lighting for airport runways in use by the army, navy, air force and commercial operators. Immediate installation of high-intensity approach lights utilizing the slope-line system was planned for the Washington National airport, Washington, D.C., and the Los Angeles International airport, Los Angeles, California. (*See* also AVIATION, CIVIL.) (E. M. E.)

AIR RACES AND RECORDS. The year 1949 was important in British air racing history when the Royal Aero club promoted the first national air races. These were held at Birmingham (Elmdon) from July 30—Aug. 1, and incorporated the more important events in the racing calendar formerly held at Lympne and elsewhere. All eight events were held over a 20-mi. quadrilateral course, which, with the poor weather conditions, made high-speed flying a considerable test of skill. J. N. Somers in a Miles Gemini won the King's cup and N.F. Duke in a Hawker P.1040 won the Kemsley challenge trophy with an average speed of 508 m.p.h. The Siddeley challenge trophy for British flying clubs was won by F. Dunkerley (Lancashire Aero club) and the challenge cup of the Society of British Aircraft Constructors for jet aircraft was won by T. S. Wade, at 510 m.p.h. average, in a Hawker P.1040.

The national air races of the U.S.A. were held at Cleveland in September. Four events were cross-country, and five round a closed circuit. All jet aircraft raced in classes, only one type being involved in each race. The Thompson trophy (jet division) was won by Captain B. Cunningham with an average speed of 586 m.p.h. His fastest lap was at 635·4 m.p.h. C. Cleland, in a F2G Corsair, won the R division of the trophy race with an average of 397 m.p.h.

There were few new official major air records. The absolute speed record set up by Major R. Johnson (U.S.A.) in a North American F-86 in Sept. 1948 was confirmed at 670·981 m.p.h. The U.S.A. recaptured the class records for helicopters (speed, 100-km. circuit, and altitude) with the Sikorsky S-52. A significant flight, though outside the official categories, was the round-world non-stop flight by a United States air force B-50 bomber. This involved air-to-air re-fuelling, whereas for the endurance effort of R. Woodhouse and W. Jongeward, who flew over Yuma, Arizona, for 46 days 20 hr. in a small single-engined Aeronca, the aid of a fast moving car was invoked ! William P. Odom flew a Beech Bonanza non-stop farther (4,957 mi., Honolulu to Peterboro, New Jersey) than any other light aeroplane in history.

Certain international point-to-point records are recognized by the Fédération Aéronautique Internationale. Five British flights in 1949 were accepted as best performances: London-Rome, in 2 hr. 31 min. (359 m.p.h.), and to Karachi in 15 hr. 20 min. (256 m.p.h.), by N. F. Duke, with Hawker Fury; London-Paris, in 20 min. 37 sec. (618 m.p.h.), by T. S. Wade, with Hawker P.1052; London-Malta, in 3 hr. 20 min. (388 m.p.h.), by W. R. MacWhirter and three other Royal Navy officers, with Sea Furies; Gibraltar-London, in 2 hr. 30 min. (436 m.p.h.), by A. C. P. Carver, with D.H. Hornet. (G. D. H. L.)

ALBANIA. A people's republic in the western part of the Balkan peninsula bounded by Yugoslavia to the north and east and by Greece to the south, with an Adriatic coastline of 200 mi. Area: 10,629 sq. mi.; only one-tenth of the total area is arable land (mainly the Adriatic littoral and the Korçë plain), about three-tenths being pastures and the rest forest, swamps and mountainous waste. Pop.: (1939 census) 1,063,000; (mid-1948 est.) 1,175,000. Chief towns (1946 est.): Tirana (cap., 35,000); Scutari or Shkoder (30,000); Koritsa or Korçe (27,000), Elbasan (15,000). Language: besides the literary Albanian, there are two spoken dialects, the *Gheg* north of the river Shkumbi and the *Tosk* in the south. Religions (1946 est.): Moslem 800,000; Greek Orthodox 220,000; Roman Catholic 110,000. Chairman of the presidium of the People's Assembly, Dr. Omer Nishani; prime minister, General Enver Hoxha (*q.v.*).

History. Owing to her strategic position Albania played an important role in Soviet policy which attempted to retain influence in the western Balkans. Despite a series of crises the Communist government continued its submissive attitude to Soviet direction, often at the expense of national interests. In June the hostile propaganda campaign against Marshal Tito reached its peak when, after a widespread purge of so-called Tito sympathizers, five members of the government were sentenced to various terms of imprisonment and the former deputy prime minister and minister of the interior, Koçi Xoxe (*see* OBITUARIES) was executed. Koçi Xoxe had declared in favour of maintaining relations with Yugoslavia. Yugoslavia denounced her treaty of friendship and mutual aid with Albania in November.

Completely isolated and deprived of normal trade with her Balkan neighbours, Albania's economy became dependent on the Soviet Union. Albania was admitted to the Council for Mutual Economic Assistance on Feb. 22. From March 21 to April 10 Hoxha visited Moscow where negotiations resulted in an agreement with the U.S.S.R. to provide capital equipment for industrial development as well as large quantities of consumer goods. The five-year plan based on Yugoslav support, abandoned in 1948, was translated into a two-year plan on the Soviet model. Albania, however, was not granted membership of the Cominform and remained the only satellite country without a treaty of mutual aid with the Soviet Union.

It became clear in July that the Soviet Union was more interested in supplying Albania in order to maintain the Greek rebel movement and increase the tempo of the nerve-war against Marshal Tito than to prevent the Albanian population from starving. As the Greek rebellion drew to its close, so the number of ships bringing transport and food, but not capital equipment, from Soviet Black sea ports, rapidly diminished. The result was that the already poor economic situation became serious. There was famine in the south of the country and disease was rife in many towns. Large numbers of refugees crossed the frontier into Yugoslavia. Deserters to the Greek government forces reported dissension in the Albanian army. Responsibility for the internal disorder was pinned on to the minister of industry, Gogo Nushi. He was arrested on the grounds of sabotage in October.

Although there was a marked decline of Soviet interest in Albania in the last half of the year, a large Soviet military mission was maintained in Tirana and Soviet technicians continued work on the harbour defences at Vlore (Valona) and Durres (Durazzo.)

In the report of the United Nations Special Commission in the Balkans, Albania was indicted as the principal source of material assistance to Greek Communists. This report, submitted to the general assembly, provided irrefutable evidence to show that the Albanian armed forces had actively assisted the Greek rebels Some 6,000 of them were given refuge in Albania when the civil war ended. All attempts by the United Nations to secure an understanding between Greece and Albania failed.

There was little opportunity for Albania to come into contact with the west This, however, did not prevent the press and radio from bitterly attacking the western nations on such subjects as the North Atlantic treaty and Allied policy towards Germany

The Free Albania committee, formed in Paris during August, was singled out for special abuse. This committee composed of the anti-Communist wartime resistance leaders in exile pledged itself to " guide and encourage the Albanian people in their resistance to Communist tyranny " The Committee visited London and Washington during September.

(S. E. Ws.)

Education and Cultural Life. (1949) Elementary schools 1,909, pupils 162,000, higher elementary (145) and secondary (20) schools with a total of 19,000 pupils A teachers' college was opened at Tirana in 1946 In Aug. 1949 it was announced that there were 12 newspapers and 14 other periodical publications with a total circulation of 83,000

Agriculture. Main crops (in '000 metric tons, 1947) maize 140, wheat 54, tobacco (1945) 1 45, olives (prewar average) 17. Livestock (in '000 head, 1946 est) sheep 1,548, cattle 345, horses 50, asses 40, mules 10; goats 854; pigs 35. First 20 collective farms were organized during 1949

Industry. Petroleum is the main natural resource, no production figures were published after 1939 when Albania produced 229,278 metric tons of crude petroleum Extraction of coal, copper ore and chromium ore started after World War II There was also a cement factory in Shkoder and a brewery in Korçe In June 1949 a two-year plan of development was adopted by the National Assembly Out of a total expenditure of 2,050 million leks, 628 million were earmarked for an industrialization programme

Foreign Trade. Main imports food products, textiles and metals Main exports crude oil, skins, animals and animal products.

Transport and Communications. Roads (1949) 2,842 km Licensed motor vehicles (Dec 1948) cars 500, commercial vehicles 1,240 Railways (1949)· 100 km Shipping (1949) number of merchant vessels 6 (including two sea-going ships purchased in 1949 from Poland)

Finance. Monetary unit is the *lek* which until June 1948 was at par with the Yugoslav dinar. In July 1949 a state loan of 250 million leks—the first loan in Albanian history—was launched On Oct 1 all the banknotes of 1947 issue were withdrawn and replaced by new ones, but no information was published as to the amount of the currency circulation

ALEMÁN, MIGUEL, Mexican statesman (b. Sayula, Veracruz Sept. 29, 1903), was minister of the interior (1940-46). In a presidential election on July 7, 1946 in which there were four candidates he received 1,800,829 votes and was inaugurated as president on Dec. 2, 1946 for a six year term of office. On April 29, 1947, he arrived in Washington on an official visit thus repaying a visit by President Harry S. Truman to Mexico in March 1947. In 1949 his Partido Revolucionario Institucional obtained 143 seats in the Chamber of Deputies out of 147 in a general election held on July 3. His government devalued the peso on June 17 and, in his state of the nation address on Sept. 1, Alemán told the chamber of deputies that this action had saved Mexico from a crisis in foreign trade and from inflation. He pledged continued controls over prices and supplies of consumer goods and disclosed that the Bank of America had granted a $3 million loan for a highway across the isthmus of Tehuantepec. (See also *Britannica Book of the Year 1949*).

ALGERIA: *see* FRENCH UNION.

ALIENS. The number of aliens registered in Great Britain at Oct. 1, 1949, was 429,342 (males 273,323; females 156,019). The figure at Jan. 1 was 410,600. The principal nationalities represented and the numbers of each compared with those in brackets at approximately the same date in 1948 were: Austrian, 11,034 (11,254); Belgian, 6,467 (8,241); Chinese, 9,367 (9,309); Czechoslovakian, 7,207 (6,837); Danish, 5,145 (4,753); Dutch, 9,158 (9,456); Estonian, 5,816 (6,025); French, 14,087 (13,019); German, 44,249 (42,252); Hungarian, 5,536 (5,155); Italian, 18,667 (17,680); Latvian, 13,855 (13,723); Lithuanian, 7,165 (7,355); Norwegian, 5,868 (5,585); Polish, 150,378 (136,336), Russian, 40,785 (36,254); Swiss, 13,107 (12,063); U S A , 16,656 (14,967). The figures included 13,000 aliens to whom no nationality could be attributed.

Among aliens not required to register and therefore not included in these figures were members of the diplomatic and consular services of foreign governments, certain officials of international organizations, members of allied forces on duty, British protected persons and short-term visitors who spent less than two months in the United Kingdom. As a result of the Burma Independence act, 1947, citizens of Burma became liable to register as aliens in March 1949.

The flow of foreign passenger traffic through United Kingdom ports continued to be heavy and in July 1949 101,768 aliens entered the United Kingdom and 84,076 departed; similar figures in July 1948 were 111,553 and 74,149. As a result of agreements concluded in and before 1949 nationals of the following countries were absolved from obtaining visas for travel to the United Kingdom: Belgium, Denmark, France, Iceland, Italy, Liechtenstein, Luxembourg, Monaco, the Netherlands, Norway, San Marino, Sweden, Switzerland and the United States

The settlement of Poles for whom the British government assumed responsibility proceeded in 1949 and by Sept. 30 the Polish Resettlement corps had been wound up. By then, out of the 174,000 Polish servicemen brought to the United Kingdom after mid-1945, 61,500 had been repatriated and 17,000 assisted to emigrate. Of the remainder 1,000 had died, 94,500 had been settled in civilian life in Great Britain and 31,000 persons dependent on them had been brought from abroad to join them.

By Oct. 1, 1949, some 76,000 aliens, mostly of Polish or Baltic origin, who had been temporarily accommodated in displaced persons' camps on the continent, had been admitted for employment in Great Britain with a view to settlement. With them came some 3,500 dependents. The number of aliens admitted after the end of World War II under compassionate schemes introduced to allow relatives in Great Britain to offer homes to aliens in isolated and distressed

circumstances abroad or the victims of political persecution rose to about 7,000. In addition some 1,000 aliens who had married British wives were allowed to remain in Great Britain with them in 1949. The repatriation of members of the German forces was completed by Dec. 31, 1948. Approximately 8,500 prisoners of Ukranian origin were allowed to remain at their own request. Fifteen thousand German prisoners volunteered to stay and work in the agricultural industry as civilians and were allowed to bring over their wives and children to join them.

Between Jan. 1 and Oct. 1, 1949, 5,610 new applications for naturalization were lodged, compared with a yearly average of 1,708 before World War II. Certificates granted during the same period numbered 7,731, an annual rate of naturalization of approximately 10,300 as against 15,500 in 1948. Among the other effects of the British Nationality act, 1948, which came into operation on Jan. 1, 1949, was that British women who had lost their British nationality by marriage before that date regained it, the statutory qualification for British protected persons seeking naturalization was reduced and such persons were exempted from the provisions of the Aliens Restriction acts; and foreign women ceased to acquire British nationality automatically on marriage to a British subject but became eligible to secure it by applying for registration as citizens of the United Kingdom and colonies. (T. G. W.)

United States. By using the true figures for immigration and naturalization and estimating alien mortality for the period of registration, it was possible to arrive at the approximate alien population. On such a basis it was estimated that there were approximately 3 million resident aliens in the continental United States in June 30, 1946 This estimate did not take into account visitors, that is, non-immigrants, and imported workers.

The number of non-citizens naturalized during the year which ended on June 30, 1949, was 66,594. This was the lowest number in 37 years Included in this number were 35,131 naturalized persons who were married to United States citizens and 2,456 persons who had served in the armed forces of the United States. Throughout the year 2,271 naturalization petitions were denied.

During 1948-49, 8,575 persons lost their United States nationality: 4,515 by voting in a foreign political election or plebescite, 1,459 by entering or serving in the armed forces of a foreign state, 754 through naturalization in a foreign state, 694 naturalized citizens through prolonged residence in a foreign state and 1,153 for other reasons. Petitions for naturalizations were filed by 71,044 persons, an increase of 4·1% from the fiscal year 1948,when 68,265 petitions were filed.

Alien Enemies. At the beginning of the 1949 fiscal year there were 174 Germans and 27 Japanese still under orders of removal issued by the attorney general, pursuant to the presidential proclamation of July 14, 1945. Of the Germans, 75 departed or were removed from the United States during the fiscal year as the result of the supreme court decision in the case of *Kurt G. W. Ludecke* v. *W. Frank Watkins* handed down on June 21, 1948, upholding the right of the government to remove or deport under the Alien Enemy act of 1798 interned alien enemies deemed by the attorney general to be dangerous because they had adhered to an enemy government or to the principles thereof; 58 were released outright; 3 were released by court order; and 6 were paroled pending further administrative determination of their cases. In view of the decision handed down by the supreme court in the case of *Klapprott* v. *United States*, execution of removal orders was deferred in the 29 denaturalization cases remaining for further administrative consideration. Only 3 Germans were still detained at Ellis Island at the close of the fiscal year. (W. B. MI.)

NON-CITIZENS NATURALIZED IN THE U.S. DURING YEAR ENDED JUNE 30, 1949, BY COUNTRIES OF FORMER ALLEGIANCE

Country of former allegiance	Persons naturalized			
	Total	Spouses and children of U S. citizens	Military	Civilian
Austria	1,194	554	31	23
British Commonwealth	13,284	8,928	353	163
Canada	5,147	3,467	202	87
China	927	233	257	97
Czechoslovakia	1,284	661	32	12
France	1,658	1,222	23	30
Germany	5,777	2,986	95	83
Greece	1,638	820	97	30
Hungary	1,036	528	16	9
Ireland	1,370	789	17	6
Italy	8,301	4,774	188	156
Mexico	2,227	1,045	205	20
Philippines	3,478	178	310	2,745
Poland	4,371	2,035	99	40
Sweden	1,044	491	12	30
U S S R	2,752	1,430	40	21
Yugoslavia	809	382	30	17
Other countries	10,097	5,056	449	424
All countries	66,594	35,579	2,456	3,993

ALIMENTARY SYSTEM. *Œsophagus.* Increasing interest was manifested during 1949 in œsophagitis, an inflammation of the gullet which gives rise to heartburn, pain and difficulty in swallowing. The œsophagus has not the resistance to acid that the stomach and duodenum have, but there is a mechanism at the upper opening of the stomach which normally prevents acid from reaching it. Failure of this mechanism will allow acid to reach the œsophagus, and in time this inevitably leads to inflammation and ulceration. According to P. R. Allison, the four stages of œsophagitis are inflammation, inflammation with acute ulcer, inflammation with chronic ulcer and healed fibrous stricture. In the presence of a diaphragmatic hernia such inflammation causes shortening of the œsophagus as well as stricture.

Cancer of the œsophagus had formerly been considered an incurable disease. Since the successful resection of the upper portion of the stomach, with restoration of continuity, by W. E. Adams and D. B Phemister in 1938 the scope of operations for œsophageal cancer had been extended so that the entire œsophagus could be removed and direct continuity satisfactorily re-established. The overall surgical mortality in 1949 was between 10 and 20%.

Stomach and Duodenum. Stewart Wolf and H. G. Wolff in 1948 had summarized the results of their extensive investigations concerning emotional disturbances and their bearing on gastric disorders. In general the patterns of disturbance were characterized either by over-functioning or under-functioning of the stomach. The former was found to be associated frequently with symptoms characteristic of peptic ulcer, that is, heartburn and gnawing pain in the pit of the stomach, especially when it was empty. The latter condition was usually relieved by taking food, milk or alkalis. Gastric hypoactivity, on the other hand, was found to be accompanied by sensations of fullness and nausea.

Investigations showed that the average volume of nocturnal gastric secretion and the average output of hydrochloric acid are highest in patients with duodenal ulcer. There is no significant difference in the average volume secreted by patients with benign gastric ulcer and by normal people. In fact, the concentration and output of hydrochloric acid is actually somewhat lower in patients with gastric ulcer. These observations have a definite bearing on treatment. The decline in mortality after massive hæmorrhage from the stomach or duodenum was attributed largely to liberal transfusions of blood and early feeding which control shock, tissue anoxia that is often irreversible and eventually fatal, dehydration, excessive accumulation of urea in the blood and

acute malnutrition. As a result patients were much more able to withstand further hæmorrhages.

An article by T. L. Althausen published in 1949 on the prevention of recurrences of peptic ulcer after medical treatment was characteristic of numerous contributions on this important phase of treatment of ulcers, which had been insufficiently stressed in the past. Factors which would cause reactivation or recurrence were emotional tension, physical fatigue, respiratory infection, alcohol, tobacco, condiments, beverages containing caffeine, stimulating or coarse foods and hurried, improper mastication. Emphasis was placed upon the institution of a protective regimen during periods of stress or former seasonal worsening of the disease. Continued co-operation with respect to diet, medication and hygiene was usually achieved only by fully acquainting the patient with the nature of the disease and the reasons for the treatment. Favourable results continued to be reported by proponents of vagotomy (cutting of both vagus nerves) in the treatment of chronic ulcer of the stomach and duodenum. Many U.S. surgeons felt that vagotomy, as an exclusive primary procedure, should be abandoned. For example, it was done only three times at the Mayo clinic at Rochester, Minnesota, during 1949 in primary operations on 429 patients with duodenal ulcers. Subtotal gastric resection still remained the method of choice for duodenal ulcer. Vagotomy was recommended especially for patients who previously had undergone operations such as pyloroplasty, gastro-enterostomy or gastric resection, and who later had recurrent ulceration, particularly anastomotic ulcers. For patients considered to have a good chance of post-operative recovery, many surgeons preferred to excise or resect the recurrent ulcer at the time vagotomy was performed.

Liver and Gall Bladder. The advantage and safety of needle biopsy of the liver, in competent hands was increasingly apparent. Combined biopsy and tests of hepatic function were most illuminating even though the results from the respective investigations did not always parallel each other. Such combined procedure, plus thorough clinical study, represented distinct progress in the diagnosis and treatment of hepatobiliary disease. M. W. Comfort, H. K. Gray and J. M. Wilson reported observations on 112 patients who had asymptomatic gallstones found incidentally during the course of abdominal operations. Follow-up data on these patients for 10 to 20 years revealed that indigestion supervened in 30, biliary colic in 21 and both jaundice and colic in 5. The remainder, exactly half the total, continued to be asymptomatic. The authors concluded that surgical treatment for silent gallstones may be classified as optional. Surgery should not be postponed, however, especially after colic occurs.

Intestines. The investigations of Almy and his associates confirmed the important role of emotional stress in the alteration of colonic function, similar in kind and degree to those alterations seen in patients with irritable colon. In a review of 726 consecutive cases of diverticulosis of the colon, F. H. Goodwin and E. N. Collins noted the following features: the cause of the condition was unknown; the site of the diverticula in most instances was the pelvic colon; three-quarters of the patients were 50 years of age or older; two-thirds were overweight; and symptoms, signs and mode of treatment were similar to those of irritable colon. Other observers estimated that inflammation would develop in 10 to 20% of cases of diverticulosis. Medical treatment was indicated for the majority of the patients during an attack of the inflammatory condition as well as before operation.

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(G. B. EN.)

AMBASSADORS AND ENVOYS. The following is a list of ambassadors and envoys to and from Great Britain, Dec. 31, 1949.

To Great Britain	*Country*	*From Great Britain*
*Sardar Faiz Mohammed Zekria Khan	Afghanistan	*Sir Alfred John Gardiner
*Ricardo de Labougle	Argentina	*Sir John Balfour
Heinrich Schmid	Austria	Harold Anthony Caccia
*Vicomte Obert de Thieusies	Belgium	*Sir George Rendel
*Napoleon Solares Arias	Bolivia	*John Garnett Lomax
*J J Moniz de Aragão	Brazil	*Sir Nevile Butler
†Boyan Athanassov	Bulgaria	Paul Mason
*U Ohn	Burma	*Reginald James Bowker
*Manuel Bianchi.	Chile	*Sir Cecil Bertrand Jerram
*Cheng Tien-hsi	China	*Sir Ralph Stevenson
*Domingo Esguerra	Colombia	*Gilbert MacKereth
†Guillermo Padilla Castro	Costa Rica	Bernard Ponsonby Sullivan
*Roberto González de Mendoza y de la Torre	Cuba	*Adrian Holman
*Rudolf Bystrický	Czechoslovakia	*Pierson John Dixon
*Count Eduard Reventlow	Denmark	*Sir Alec Randall
Julio Vega Batlle	Dominican Republic	Stanley Herbert Gudgeon
*Jorge Carrera-Andrade	Ecuador	*John Eric Maclean Carvell
*Abdel Fattah Amr Pasha	Egypt	*Sir Ronald Campbell
Ato Abbebe Retta	Ethiopia	Daniel William Lascelles
Eero Aarne Wuori	Finland	Oswald Arthur Scott
*Rene Massigli	France	*Sir Oliver Charles Harvey
	Germany	‡Sir Brian Robertson
*Leon Victor Melas	Greece	*Sir Clifford Norton
Miguel Ydigoras Fuentes	Guatemala	Wilfred Hansford Gallienne
Frédéric Duvigneaud	Haiti	David Jarvis Mill Irving
Tiburcio Carias	Honduras	Gerald Ernest Stockley (designate)
Elek Bolgár	Hungary	Geoffrey Wallinger
Stefán Thorvardsson	Iceland	Charles William Baxter
*Emir Zeid ibn al-Hussein	Iraq	*Sir Henry Mack
**John Whelen Dulanty	Ireland, Republic of	**Sir Gilbert Laithwaite
Mordecai Eliash	Israel	Sir Alexander Helm
*Duke Tommaso Gallarati Scotti	Italy	*Sir Victor Mallet
	Japan	§Sir Alvary Gascoigne
Emir Abdul Majid Haidar	Jordan	Sir Alec Kirkbride
	Korea	Vyvyan Holt
Victor Khouri	Lebanon	Sir William Evelyn Houston-Boswall

To Great Britain	*Country*	*From Great Britain*
Baron Robert Aernout de Lynden	Liberia	John Gilroy Baillie
	Liechtenstein	† Eric Grant Cable
André Clasen	Luxembourg	Geoffrey Allchin
*Federico Jimenez O'Farrill	Mexico	*Thomas Cecil Rapp
*Shanker Shumshere Jung Bahadur Rana	Nepal	*Sir George Falconer
*Jonkheer E Michiels van Verduynen	Netherlands	*Sir Philip Nichols
(vacant)	Nicaragua	N O W Steward
*Per Preben Prebensen	Norway	*Sir Laurence Collier
Bernandino González Ruiz	Panama	John Dee Greenway
Augusto Saldivar	Paraguay	Ian Henderson
*Mohsen Rais	Persia (Iran)	*Sir John Le Rougetel
*Ricardo Rivera Schreiber	Peru	*James Leishman Dodds
José E Romero	Philippines, Republic of the	Linton H Foulds
*Jerzy Michałowski	Poland	*Sir Donald St. Clair Gainer
(vacant)	Portugal	*Sir Nigel Ronald
Mihail Macavei	Rumania	Walter St Clair Howland Roberts
Carlos Leiva	Salvador, El	Daniel Francis Horseman Brickell
*Sheikh Hafiz Wahba	Saudi Arabia	*Alan Charles Trott
‖Duke of San Lucar la Mayor	Spain	‖Douglas Frederick Howard
*Bo Gunnar R Hägglof	Sweden	*Harold Lister Farquhar
Henry de Torrenté	Switzerland	Patrick Stratford Scrivener
Edmond Homsy	Syria	Philip Mainwaring Broadmead
*Prince Nakkhatra Mangala Kitiyakara	Thailand (Siam)	*Sir Geoffrey Thompson
*Cevat Açikalin	Turkey	*Sir Noel Charles
*Gheorghi N. Zarubin	U S S R	*Sir David Kelly
*Lewis W. Douglas	U S A	*Sir Oliver Franks
*Enrique E Buero	Uruguay	*Douglas Frederick Howard
†† Archbishop William Godfrey	Vatican	J V T. W T. Perowne
*Manuel de Arocha	Venezuela	*Sir John Hall Magowan
*Obrad Ciemil	Yugoslavia	*Sir Charles Peake
	United Nations	¶ Sir Alexander Cadogan

* Ambassador Unstarred, Minister † Charge d'affaires ** High Commissioner ‡ High Commissioner to West German federal government § Political Representative †† Apostolic Delegate ‖ Ambassador withdrawn in accordance with United Nations resolution, 1946, embassy at present headed by a charge d'affaires ¶ Permanent U K representative to the United Nations

The following is a list of high commissioners within the Commonwealth of Nations, Dec. 31, 1949.

From Australia to		*From Great Britain to*	
Canada	Francis Michael Forde	India	Sir Archibald Nye
Ceylon	Charles William Frost	New Zealand	Charles Roy Price
Great Britain	(vacant)	Pakistan	Sir Laurence Grafftey-Smith
India	Herbert Roy Gollan	South Africa	Sir Evelyn Baring
New Zealand	Arthur Roden Cutler	*From India to*	
Pakistan	John Egerton Oldham	Australia	Daya Singh Bedi
South Africa	Alfred Stirling	Canada	Santdas Khushiram Kirpalani
From Canada to		Ceylon	V V. Giri
Australia	Léo-Richer Laflèche	Great Britain	V. K. Krishna Menon
Great Britain	L. Dana Andrews	Pakistan	Sita Ram
India	Warwick Fielding Chipman	*From New Zealand to*	
New Zealand	Alfred Rive	Australia	James Gillespie Barclay
Pakistan	David Moffat Johnson	Canada	James Thorn
South Africa	Edward D'Arcy McGreer	Great Britain	William Joseph Jordan
From Ceylon to		*From Pakistan to*	
Australia	J. Aubrey Martensz	Canada	Mohammad Ali
Great Britain	Sir Oliver Goonetilleke	Great Britain	Habib Ibrahim Rahimtoola
India	C. Coomaroswamy	India	Mohammad Ismail
From Great Britain to		*From South Africa to*	
Australia	Edward John Williams	Australia	Philippus Rudolph Viljoen
Canada	Sir Alexander Clutterbuck	Canada	Alfred Adrian Roberts
Ceylon	Sir Walter Crossfield Hankinson	Great Britain	Leif Egeland

AMERICAN FEDERATION OF LABOUR: *see* TRADE UNIONS.

AMERICAN LEGION: *see* EX-SERVICEMEN'S ORGANIZATIONS.

AMERICAN LITERATURE. General and Historical. The phenomenon of the year 1949 in non-fiction books was the popularity of works on religious subjects. On the best-seller lists were Thomas Merton's *The Waters of Siloe*, a history of the Trappist Order, Fulton J. Sheen's Catholic *Peace of Soul*, and Fulton Oursler's *Greatest Story Ever Told*, a retelling of the gospel. Harry Emerson Fosdick retold the life of Jesus in *The Man from Nazareth*. Reinhold Niebuhr's study of the place of religion in civilization, *Faith and History*, was an important book. In contradistinction to these appeared two carefully documented studies of the growing power of the Catholic church in temporal affairs: Paul Blanshard's *American Freedom and Catholic Power* and Avro Manhattan's milder *The Vatican in World Politics*. Vannevar Bush's *Modern Arms and Free Men* asserted that the atom bomb does not make other weapons obsolete and proposed a politically conservative *laissez-faire* solution. Theodor Rosebury, in *Peace or Pestilence*, analysed the frightening facts of biological warfare and favoured a liberal political policy as the way to avoid the possible catastrophe.

Samuel Eliot Morison added two more volumes to *The History of United States Naval Operations in World War II*, "Coral Sea, Midway and Submarine Actions" and "The Struggle for Guadalcanal." Oliver La Farge wrote a history of the Air Transport command in World War II, *The Eagle in the Egg*. Fletcher Pratt made a study of outstanding generals from Nathanael Greene to Omar Bradley, *Eleven Generals*. General H. H. Arnold's *Global Mission* combined his own life story with a history of the army air force, Many books dealt with world affairs and the U.S. role in them. Howard Smith's *State of Europe* was a description and interpretation of developments in European countries since World War II. Owen Lattimore, in his *Situation in Asia*, reported not only on China but also on India and Indo-China. Anna Louise Strong's *Chinese Conquer China* described her view of China's ways of solving its own problems.

On the problem of race relations in the United States E. Franklin Frazier's *The Negro in the United States* was an authoritative factual survey of the Negro from slavery to the

F.E.P.C. Lillian Smith's *Killers of the Dream* tried to shock the reader into realization of the Negro's desperate situation. Ray Sprigle's *In the Land of Jim Crow* set forth his experiences in the South, where he passed as a Negro. Carey McWilliams, in *North from Mexico*, studied the mis-treatment of Mexican minorities in California.

Margaret Mead, in *Male and Female*, recorded the battle of the sexes in a changing world. Clyde Kluckhohn's *Mirror for Man* discussed the relation of anthropology to modern life. H. A. Overstreet's *The Mature Mind* analysed how mass media of communication perpetuate immaturities and infantilisms. Catherine Mackenzie presented a synthesis of the work of experts in the field of child psychology in *Parent and Child*. Lincoln Barnett's *The Universe and Dr. Einstein* explained the scientist to the layman.

Other books which studied phases of the U S. scene or U.S. culture were Oliver Larkin's *Art and Life in America*, an analysis of the inter-relation of American art and thought, and Roger Burlingame's *Backgrounds of Power*, a history of mass production and its social effects. Isabel Leighton edited *The Aspirin Age, 1919-1941*, a volume of essays by Samuel Hopkins Adams and others on U.S. life between World Wars I and II.

The most widely read memoirs of the year were Eleanor Roosevelt's *This I Remember*, a factual account by the president's wife. Grace Tully published *F.D.R.—My Boss*, the story of the president as his secretary saw him. Edward Stettinius' *Roosevelt and the Russians* revealed the inner workings of the Yalta conference and the attempts of the United States to co-operate with the U.S S.R.

Historical works included Ray Allen Billington's *Westward Expansion*, a definitive study, in the tradition of Frederick Jackson Turner, of the frontier in United States history. The two chief Lincoln books were Kenneth P. Williams' *Lincoln Finds a General*, a military history of the Civil War, and Carl Sandburg's *Lincoln Collector*, papers from the Barret Collection with extended comment.

Novels. Good novels appeared which, although chiefly concerned with character, exploited unusual settings or occupations. John Brooks's *The Big Wheel* showed how a big-time slick news-weekly gets written. Tom Lea's *The Brave Bulls* told the adventures of a Mexican matador. George Weller's *The Crack in the Column* gave a detailed and accurate explanation of the Greek resistance movement and civil war. One of the year's best novels was Nelson Algren's *The Man With the Golden Arm*, which dug deep into the materials and people of the Polish slums of Chicago *Without Magnolias*, by Bucklin Moon, projected realistically the Negro's position in the South. *The Sure Thing*, by Merle Miller, set forth the catastrophic effects of witch hunts on government employees. Albert Maltz, in *The Journey of Simon McKeever*, created a dignified and almost tragic character and also focused attention on the problems of the old age pensioner. William Gardner Smith's perceptive story of a Negro in the U.S. army of occupation in Germany, *Last of the Conquerors*, was a picture of how democracy sometimes fails to work. Haakon Chevalier's *For Us The Living* used a background of west coast fruit packer and labour disputes for his story of murder. Kay Boyle's novel of oblique characterization, *His Human Majesty*, used a ski troop training centre.

Among novels concerned with character was one of the most distinguished first novels of the year, Paul Bowles's *The Sheltering Sky*. Although the North African setting was a vivid part of the book, it was his mature and sensitive portrayal of somewhat existentialist characters involved in a triangle situation which marked the book. Another novel which probed delicate human relations was Isabel Bolton's *The Christmas Tree*, a story which explored the sources of homosexuality.

Sinclair Lewis' *The God-Seeker*, an American frontier novel, was dubiously received and was criticized as the work of a bored, reformed satirist. William Faulkner published *Knight's Gambit*, a group of short semi-detective stories and a novella set in the familiar Faulkner South and involving characters from his *Intruder in the Dust*. James Branch Cabell published *The Devil's Own Dear Son*, an ironic tale of a man who set out to find his real father, the Devil. John Dos Passos completed his New Deal trilogy with *The Grand Design*. Upton Sinclair brought Lanny Budd to friendly terms with President Truman and the world in general in *O Shepherd, Speak!* Pearl Buck's *Kinfolk* was a novel of modern China; Jerome Weidman satirized the business world in *The Price Is Right;* and Mary Ellen Chase's novelette *The Plum Tree* was a neatly written story of insane old ladies in a nursing home.

Among volumes of short stories Eudora Welty's *The Golden Apples* gave a connected picture of life in the Mississippi country. Truman Capote, in *A Tree of Night, and Other Stories* dissected a group of disturbed personalities. Shirley Jackson skilfully combined the macabre and the familiar, especially in the title story of *The Lottery: or The Adventures of James Harris*.

Belles Lettres. The most conspicuous token of the continued interest in Henry James was Leon Edel's edition of *The Complete Plays*. The enormous quantity of research upon Herman Melville that occupied scholars during the '40s began to appear. Two major critical works were Howard P. Vincent's *The Trying-Out of Moby-Dick*, a fascinating quest for the book's sources and an illuminating interpretation of its meaning; and Richard Chase's more subjective *Herman Melville: A Critical Study*, which undertook a complex interpretation and analysis of all his works A specialized study was made by Nathalia Wright in *Melville's Use of the Bible*. The reissue of Melville's own writings continued. Henry A. Murray edited *Pierre*, the third volume in the scholarly new *Complete Works*. Jay Leyda's edition of *The Complete Stories of Herman Melville* made available the neglected magazine pieces. *The Confidence-Man* was reprinted for the first time in the United States.

There were a number of biographies of important U.S. writers, the most impressive of which was Ralph L. Rusk's definitive *Life of Ralph Waldo Emerson*, which was an exhaustively factual rather than critical or intellectual study. Most favourably received by historians and literary scholars was Ernest Samuels' *The Young Henry Adams*, published at the close of 1948, the first volume of a projected 2-volume biography. John A. Pollard wrote an excellent *John Greenleaf Whittier, Friend of Man*. Three volumes were added to the fine American Men of Letters series: Mark Van Doren's *Nathaniel Hawthorne*, James Grossman's *James Fenimore Cooper* and Perry Miller's *Johnathan Edwards*. Robert H. Elias wrote a good study of *Theodore Dreiser* and Dixon Wecter edited the *Love Letters of Mark Twain*.

Donald Stauffer contributed to Shakespeare scholarship with his *Shakespeare's World of Images* and Francis Fergusson wrote an important analytic study of drama as the imitation of action, *The Idea of a Theatre*. There also appeared the first translation since 1908 of Miguel de Cervantes' *Don Quixote*, in idiomatic modern English, by Samuel Putnam.

Poetry. Conrad Aiken's *Skylight One* combined sensuousness and irony. *The Selected Poems* of William Carlos Williams and *The Complete Poems* of Robert Frost appeared. The most important anthology was *The Poetry of the Negro —1746-1949*, edited by Arna Bontemps and Langston Hughes.

Theodore Roethke's *The Lost Son, and Other Poems*, centring about greenhouse imagery, was well received by the critics. Ellis Foote wrote *Layman's Fall; A Fantasy in the Joyous Mode*, a long symbolic poem. Richard Eberhart's

Burr Oaks, May Sarton's *The Lion and the Rose*, and Rolfe Humphries' *The Wind of Time* were other new volumes.

The award of the Bollingen prize was made to Ezra Pound for his *Pisan Cantos*. This selection, the first under a grant by the Bollingen foundation to the Library of Congress to encourage U.S. poets, was made by the Committee of the Fellows in American Letters of the library (in spite of the fact that Pound had been accused of treason) on poetic grounds alone. Nevertheless a considerable controversy was raised and a congressional investigation was even proposed but subsequently the charges against the committee were withdrawn. (*See* also LITERARY PRIZES.) (H. M. H.)

ANÆMIA. In 1949 vitamin B_{12} came into general use in the treatment of pernicious anæmia and certain other macrocytic anæmias Its value in the production of remissions was confirmed repeatedly, and its efficiency in checking the progress of neurologic and tongue symptoms was established. The mechanism of its action was still a problem, but some investigators felt that it was the same as the " extrinsic " factor of W. B Castle and was identical with the anti-pernicious anæmia principle of liver It was postulated that the " intrinsic " factor did not react with the extrinsic factor, as was previously thought, but facilitated the absorption of the extrinsic factor. Vitamin B_{12} was not readily absorbed when given by mouth unless given in large amounts, or accompanied by intrinsic factor (normal gastric juice)

Folic acid continued to prove effective in the treatment of macrocytic anæmias, but the effect was less pronounced than with liver derivatives In the hands of different investigators the reaction to the neurologic changes varied. While some noted improvement or the absence of aggravation of symptoms, others found development or progression of the cord changes; these could be eliminated, however, with large amounts of liver extract Good results followed its uses in the macrocytic anæmia of pregnancy, even when liver extract proved inadequate.

Sub-acute combined degeneration of the spinal cord in pernicious anæmia was found to be reversible if intensive liver or vitamin B_{12} therapy was instituted before the axis cylinders had been destroyed In some patients, glossitis responded to treatment with members of the vitamin B complex, not effective in improving the blood.

Relapses in ability to produce new blood cells in pernicious anæmia followed the discontinuance of liver extract in from 8 to 18 months, although some did not show anæmia over a period of 26 to 29 months. Vitamin B_{12} was found to be effective in the megaloblastic anæmia of infancy.

Increased attention was given to the iron deficiency anæmias and the mechanism of absorption of iron Radioactive iron was absorbed by the cells of the circulating blood in proportion to the number of reticulocytes. During infection or in the presence of an abscess (turpentine) there was a fall in plasma iron and a delay in the uptake of radio-iron by the red blood cells, although the deficiency was less marked in anæmic dogs on a diet with a low iron content. In recovery from anæmia of infection, there was a sharp increase in the iron binding capacity of the serum, although the low serum iron concentration associated with anæmia in acute and chronic infections was not the result of the low iron binding capacity of the serum. In iron deficiency anæmia there was a low percentage saturation of the iron-binding material of the serum. In dogs with anæmia of hæmorrhage, hæmoglobin regeneration was most definite after liver or beef muscle feeding, whereas total blood proteins regenerated well after liver, meat, casein and egg proteins. In anæmic rats hæmoglobin regeneration followed the use of dietary proteins in the following order: first eggs, then meat, processed soya, casein, peanut, maize, wheat and gelatine. Of these, casein, soya and maize protein were more effective in hæmoglobin regeneration. In diets with caloric deficiency, hæmoglobin regeneration was favoured at the expense of weight recovery. Molybdenum-iron complex was found to be more effective in some patients with anæmia during pregnancy than other forms of iron. An iron-sucrose preparation was developed which was effective when given intravenously with only the minimum reactions.

Vegetarian Indian soldiers in Iraq had significantly lower blood levels than meat-eating individuals, several showing nutritional macrocytic anæmia, even though they were on a 3,000-calorie diet with 80 gr. of vegetable protein. One hundred and twenty-seven cases of severe refractory, tropical macrocytic anæmia were found in Sepoys serving in Assam and eastern Bengal. The most effective therapeutic measures were adequate diet, control of infections and transfusions, but 38% died.

Acute hæmolytic anæmia appeared in approximately 2% of all births in otherwise healthy Rh-positive infants when there had been placental immunization of the mother with the Rh antigen.

Breaks in the fœtal and maternal blood vessels in the placenta accounted for the contact of fœtal and maternal blood in erythroblastosis fœtalis, allowing the agglutinative and hæmolytic maternal antibodies to destroy the fœtal cells and produce a hæmolytic anæmia. Exchange transfusions in newborn babies with hæmolytic anæmia reduced the mortality from 63 5% to 18 1%. After the use of Rh hapten, 20 of 27 babies with severe erythroblastosis recovered and remained well, 5 dying of other causes. A number of reports added to the data on Rh occurrence, types, variants and inheritance.

Acute macrocytic anæmia developed in rats several weeks or months after the surgical formation of a blind loop in the small intestine. Nutritional macrocytic anæmia was produced in swine by feeding a purified diet containing a folic acid antagonist. In 45 patients with tropical macrocytic anæmia, improvement was noted in 39 after the use of refined liver extract.

Severe hypoplastic anæmia was noted in seven patients who had prolonged administration of atabrine. Recovery was spontaneous and gradual, apparently not influenced by therapeutic measures.

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ANÆSTHESIOLOGY. The introduction of decamethonium bromide (C-10) under the trade name of Syncurine gave workers in anæsthesiology and in the field of shock therapy an agent with a curare-like effect but one which was easier to obtain and prepare for use. A safe and effective antidote, however, was not known. The action of this agent appeared to be less lasting than that of curare, the duration of a fully effective dose being from a third to a fourth of as many minutes as for curare. Decamethonium bromide produced less effect on the pharyngeal and respiratory muscles than curare and was less active than the latter in causing the release of any histamine-like substance. The optimal dose was 2 to 3 mg., injected at the rate of 1 mg. a minute. It appeared to act quickly, that is, in the matter of a minute or two, as compared to the five to ten minutes required for the action of curare. Satisfactory and safe relaxation was obtained with the use of this new drug.

The use of dolamin (benzyl alcohol 0·75%, ammonium sulphate 0·75%, sodium chloride 4·8% in an ampule with sufficient water to make 10 cc.) prevailed; the effect could never be predicted. In cases in which little of the material was to be used on only one or two nerves, variations in the solution were tried, such as omitting the benzyl alcohol and increasing the ammonium sulphate up to 1·5% or in some cases up to 2·5% of the solution. The checking of accurate placement of needles by rœntgenograms continued and greater accuracy in technique was developed. It was made clear that paravertebral somatic injection of alcohol near the nerve roots could not be repeated for some weeks after the first injection without danger of a bizarre pattern of paralysis.

R. E. Courtin described seven electroencephalographic levels of anæsthesia and suggested their use as practical measures of the depth of anæsthesia. Subsequently R. G. Bickford invented a device which automatically controllsd the depth of anæsthesia both in human beings and animals. The apparatus which injected the anæsthetic agent worked on the principle of activation by the electrical potentials emanating from the brain of the subject. (*See* also SURGERY.) (J. S. L.)

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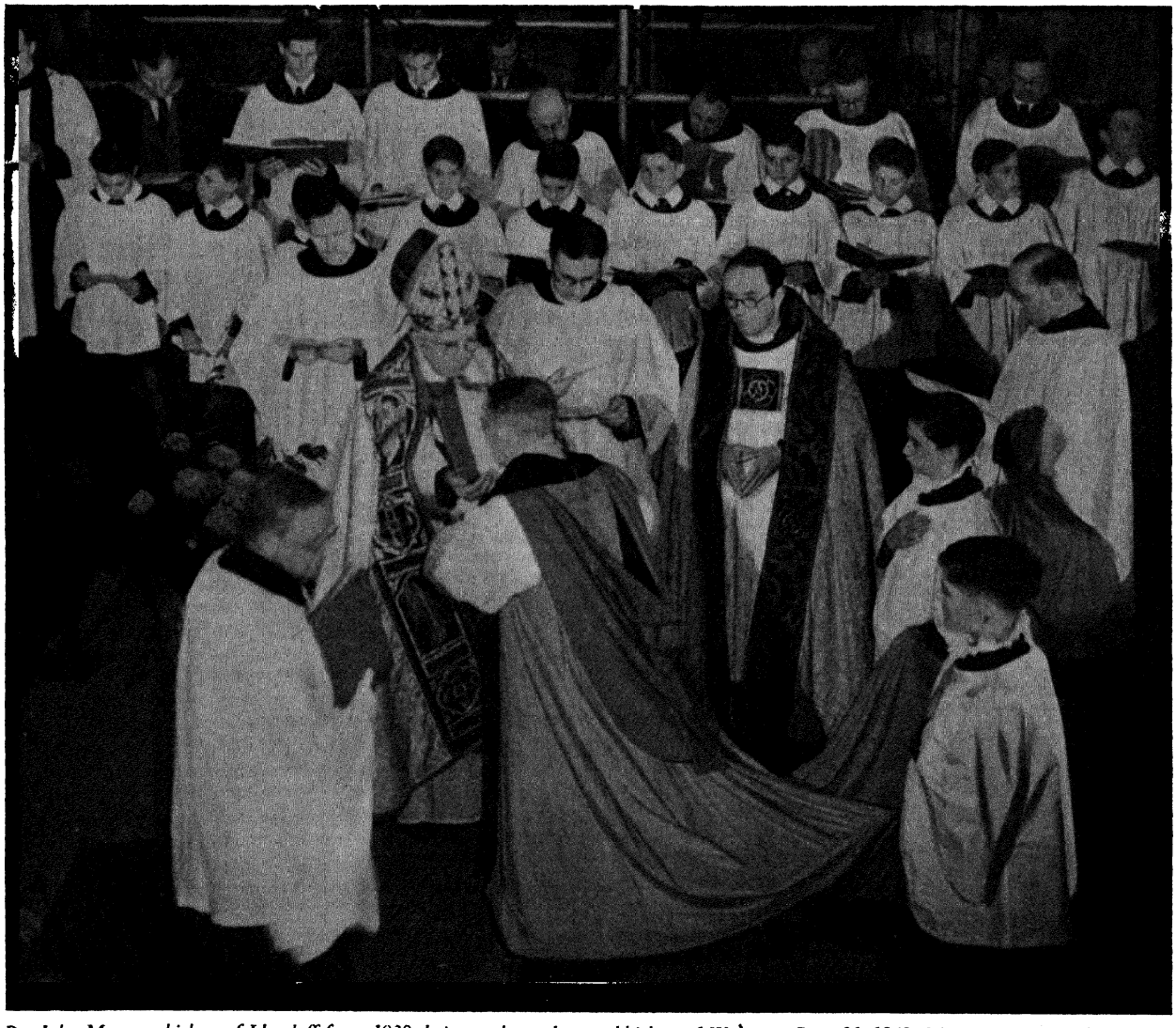
ANDORRA. A small autonomous state between France and Spain, bounded on the north by the *départements* of Ariège and Pyrénées Orientales, and on the south by the Spanish province of Lerida. Area: 191 sq. mi. Pop. (1945 est.): 5,300. Language: Catalan. Religion: Roman Catholic. Capital: Andorra-la-Vieja (pop. *c.* 1,000). Co-princes: the president of the French republic and the bishop of Urgel, Spain, respectively represented in 1949 by André Bertrand and Jaime Sansa Nequi, their *viguiers*. An elected General Council of 24 members appoints one of its members as the *syndic général des vallées* (from 1946, Francisco Cayrat).

The event of the year was an order given on March 8 by a Paris court to the Radiodiffusion Française to cease jamming the broadcasts of Radio Andorra. This order was confirmed by the Paris Court of Appeal on May 24. The jamming had started in April 1948 when the proprietors of Radio Andorra refused to sell their station to a French concern.

The General Council suggested during the year the building of an airfield and the linking of Andorra to the international telephone trunk system; but from 1945 the strained relations between France and Spain had rendered any common decision by the two *viguiers* practically impossible.



Dr. John Morgan, bishop of Llandaff from 1939, being enthroned as archbishop of Wales on Sept. 21, 1949. The ceremony was held in the nave of Llandaff cathedral which was damaged in World War II.

Andorra had 13 local policemen, but from 1944 a hundred French *gardes mobiles* were stationed on Andorran territory for the purpose of maintaining order.

ANGLICAN COMMUNION. Early in 1949 most of the bishops of the overseas Churches of the Anglican communion were occupied after their return from England with the resumption of diocesan duties and with discussion on the work and findings of the Lambeth conference (1948), and in some cases of the Amsterdam World Council of Churches.

The provincial synod of the Church in the West Indies accepted resolution 96 of the Lambeth conference, which allowed discretion to the diocesan bishops to grant or refuse permission to divorced persons to take part in the Holy Communion. The synod transferred this sanction to the archbishop of the province, who was granted the right to appoint two diocesan bishops to decide whether or not the case might be treated as a nullity case. In this event the bishop of the diocese concerned might admit the applicant to Communion. A new political order was being framed for the West Indies, and an appeal was made for a better educated clergy who might help to train leaders and meet the demand for higher education. Great progress was reported from the diocese of Trinidad after three years' work of Bishop Fabian Jackson.

In the United States 11 bishops from Great Britain, Ireland and the West Indies (bishops of London, Oxford, Bath and Wells, Glasgow, Derry, Barbados, Bermudas, Honduras, Nassau, Puerto Rico and Trinidad) made an extensive tour of U.S. cities and addressed Eucharistic congresses of the Protestant Episcopal Church held in connection with the fourth centenary of the Book of Common Prayer. The bishop of London preached in New York, Dallas, Los Angeles, San Francisco and Seattle. President Truman received the bishops at the White House.

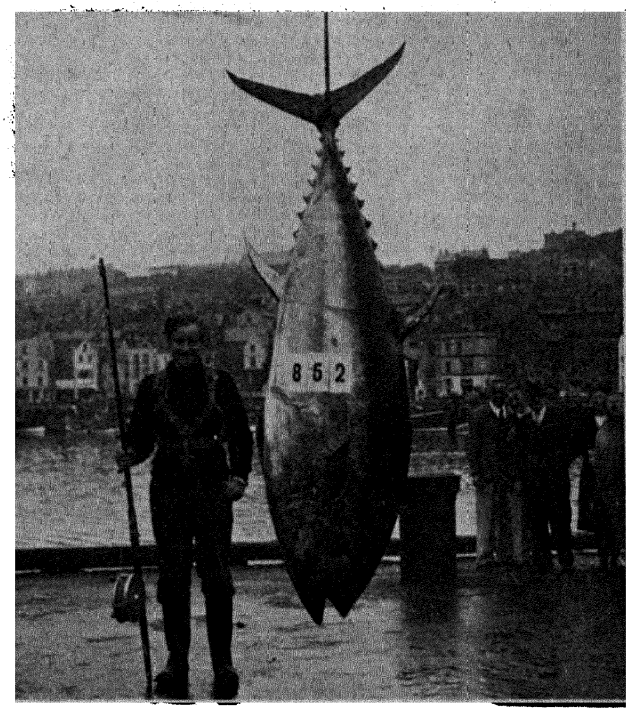
The archbishop of York (*q.v.*) preached at Washington and addressed the general convention of the Episcopal Church at San Francisco. In the course of its proceedings the triennial general convention, sitting under the presiding bishop of Massachusetts (Dr. Henry Knox Sherrill) received a report from a special committee of the house of bishops appointed in 1946 to consider canon 18 (on marriage). That canon took away the right of the innocent party in a divorce suit to be married in church, unless the conditions of nullity existed at the time of the first marriage. This left the matter ambiguous and different interpretations of the canon had been given. However, the committee advised no change during the next three years. In the meantime a joint committee of bishops and laymen was to examine the whole question and report to the next triennial convention. The Convention recommended psychiatric tests for ordination candidates in order to ascertain their mental and nervous condition. Intinction was authorized at Holy Communion as an alternative method of administration, but at the discretion of the diocesan bishop. From 1957 all clergy would retire at the age of 72 from active work, although they might take occasional duty. The convention adopted the highest budget on record ($5·6 million). It agreed to support the Church of England at St. Augustine's college, Canterbury, for the higher training of post-ordination candidates from all over the Anglican Communion. The lower house of the Canadian Church proposed to sanction the remarriage in church of the innocent party in a divorce suit.

In South Africa the Anglicans joined representatives of other churches in a deputation to Dr. D. F. Malan, the prime minister, on Native rights. A hearing was not granted. Dr. Geoffrey Clayton, bishop of Johannesburg, succeed Dr. John Russell Darbyshire, who had died in England during the Lambeth conference in 1948, as archbishop of Capetown. New bishoprics for Basutoland and Matabeleland, to be carved out of Bloemfontein and Southern Rhodesia, respectively, were being planned.

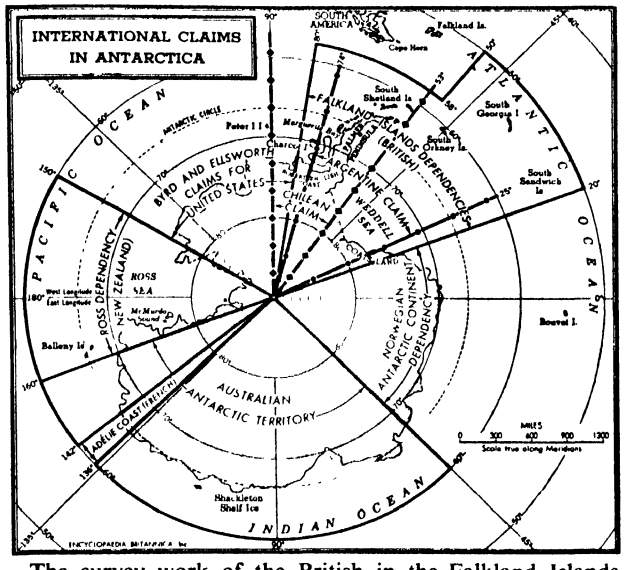
In South India 36,000 Anglicans at Nandyal (Telugu country) were standing out of the new united Church of South India, and were placed under the supervision of the metropolitan bishop of Calcutta. In spite of political disturbances in Burma the Anglican Church was holding firm. It was encouraged by a visit of the metropolitan of Calcutta. The archbishop of New Zealand toured in Polynesia, especially in Fiji. The bishop of Singapore (J. L. Wilson) became dean of Manchester and canon H. W. Baines of Rugby replaced him at Singapore. The central committee of the World Council of Churches set up at Amsterdam in 1948, held its first meeting at Chichester under the chairmanship of Dr. G. K. A. Bell, bishop of Chichester. In the autumn Dr. Bell left for a tour of the churches in Australia and New Zealand, and visited the Church of South India on the way home. The synod of the diocese of Sydney prohibited the use of eucharistic vestments.

The general synod of the Church of Ireland considered new state prayers to meet the new conditions created by the separation of Ireland from the United Kingdom. Admission of women to diocesan synods and councils was approved. The fourth centenary of the Prayer Book was celebrated throughout the Church. The bishop of Llandaff (Dr. John Morgan) became archbishop of Wales. Proposals for the revision of the Welsh Prayer Book were considered by the synod. (*See* also CHURCH OF ENGLAND; MISSIONS, FOREIGN RELIGIOUS; THEOLOGY; WORLD COUNCIL OF CHURCHES.) (A. J. MAC.)

ANGLING. Sea-anglers enjoyed a successful year. In the North sea the tunny-fishing was the best since 1933 and the total catch of 43 included a fish weighing 852 lb. (a new British record). Other record fish caught during 1949 were a female tope of 73 lb. 3 oz. from Hayling island, Hampshire, a flounder of 4 lb. 13 oz. from Exmouth, Devon, and a plaice of 7 lb. 6½ oz. from Teignmouth, Devon. The festivals were well attended, Folkestone's (Kent) entry including several French anglers, while Brighton's (Sussex) figure of 850 was



J. H. Lewis of Scarborough, Yorkshire, with a tunny fish weighing 852 lb. which he caught in Sept. 1949.



The survey work of the British in the Falkland Islands dependencies continued from a chain of bases stretching from the South Orkney islands to south Graham land. In 1948, exploratory sledge journeys were made continuously from Hope bay in the north of Graham land and in 1949 from Marguerite bay on the west coast in lat. 68° S. In the north existing maps of the Trinity peninsula were corrected and the survey advanced down the west coast. But most of the year's scientific work and two lives were lost in a fire which destroyed the Hope bay base hut in Nov. 1948. From Marguerite bay two remarkable journeys were made down the King George VI sound of 80 days' duration and emperor penguins, of which little was known, were kept in captivity and studied. It was an unfortunate year as plans to carry the survey farther south by setting up new bases were thwarted by abnormal ice conditions of the last Antarctic summer. This prevented the survey vessel "John Biscoe" relieving the Hope bay party till February and from ever reaching Marguerite bay at all. She sailed in the autumn of 1949 for the following season and with two aircraft it was expected that it would be possible to rescue the marooned party.

It was intended to use "weasel" (light, tracked carriers) and aircraft from a new base on Alexander I land and penetrate far into the dependencies while a specially equipped motor vessel was to be used for hydrographic work; but both these projects had to wait for a more open season. Deception island had the busiest Antarctic port (Port Foster) and this had lately been recharted by Admiralty hydrographers. From here, meteorological reports were combined with information from other bases and reports from the big station at Port Stanley in the Falkland islands. This station had the latest "radio-sonde" system of transmitting upper air conditions so that shipping over a wide area could now be provided with reliable weather forecasts which were essential in predicting ice movement.

The South Africans on Marion island in lat. 45° S. carried out continuous meteorological observations and were in regular wireless contact with their counterparts in the Australian Antarctic expedition on Heard and Macquarie islands. This latter expedition was unable to set up a base in Feb. 1948 at Commonwealth bay on the mainland so they landed parties on the two islands which became permanent bases for meteorological observations and cosmic ray counts.

The French expedition ship, "Commandant Charcot," was also prevented by ice from reaching Adelie land in March 1949. It had a Stinson monoplane and an American "weasel" on board and if ice forbade access to the continent, an alternative programme was arranged for the party to work on Kerguelen island.

Argentines and Chileans set up bases on islands off Graham land and claimed territory in the Falkland islands dependencies sector. Also, the U.S.S.R. showed interest though, with the exception of whaling in the years 1947-49, there had been no Russian expeditions to the Antarctic since Fabian von Bellingshausen's great voyages of 1819-21. The whaling industry flourished and in the 1948-49 season Norwegian and British whalers in south polar waters reported good catches. (*See* also EXPLORATION AND DISCOVERY.) (S. ST. C. MC. N.)

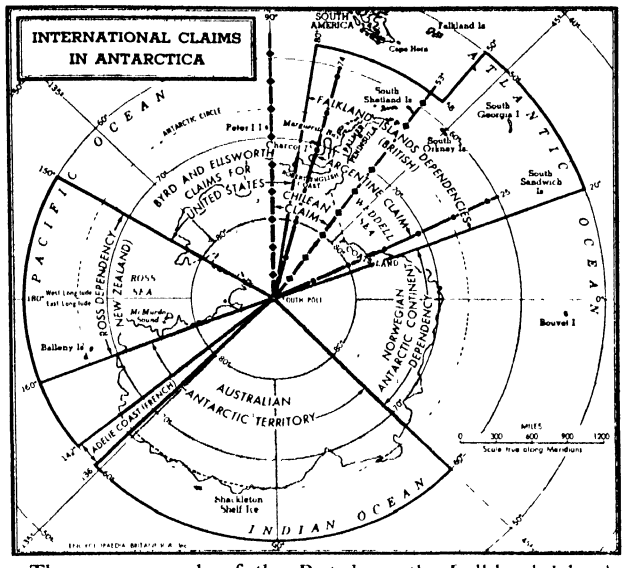
ANTHROPOLOGY. The meeting of the International Congress of Prehistoric and Protohistoric Sciences, to have been held in Budapest in 1949, did not take place and there were no important international gatherings in Europe that year. The International Congress of Americanists met in New York in September and was attended by delegates from Europe; an invitation to hold the next session in 1952 in Europe was accepted. The International Congress of Anthropological and Ethnological Sciences continued, through the committee appointed at its last session (Brussels, Aug. 1948), to consider its international status and organization, particularly the question of affiliation to the newly created International Union of Philosophical and Humanistic Studies, which would represent the social sciences and be the channel for all dealings with U.N.E.S.C.O.

During the year important contributions were made in the sphere of human palæontology and results were made known of discoveries throwing light on the problem of the antiquity of man. Dr. Robert Broom, of South Africa, visited England and in addresses to learned societies described finds of apemen remains in South Africa over a period of years. In his address to the Royal Anthropological institute he surveyed the history of the work done since 1925, when Professor R. A. Dart described the skull of a child (called a "missing-link" skull), to the present day, the latest finds being of a large apeman with a jaw larger than that of man but with human teeth.

Professor H. V. Vallois, director of the Institute of Human Palæontology of Paris, gave some results of similar researches in France when he spoke to the Royal Anthropological institute on "les hommes fossiles de Fontéchavade et le problème de l'origine de l'homme." A. T. Marston re-opened the question of the Piltdown skull in an address to the Royal Anthropological institute in which he argued that the mandible was that of an ape of about 10 years old whereas the cranium was of modern type man (perhaps Würmian) of about 40 years old. A fluorine test was called for. At the British Association for the Advancement of Science meeting of the year Dr. K. P. Oakley reported results of the fluorine age-test on various specimens; these results suggested that the Galley Hill skull belonged to a post-palæolithic period, that the Piltdown skull and jaw fragments were all of much the same age as one another and not likely to be older than the pre-Wurm interglacial. The Swanscombe fragment, on the other hand, seemed to belong to the lower Palæolithic, as its apparent association with a bifacial hand-axe had long suggested. Dr. Broom supported this thesis with reference to the Piltdown skull and claimed that scarcely any doubt could remain that both skull and jawbone belonged to the same individual, one of the big-brained type which evolved with *homo sapiens*.

The collection of blood group data was included in the work of an expedition to east Africa, organized by the University of Oxford Exploration club. Professor F. E. Zeuner visited archæological sites in India.

In France, at Angles-sur-l'Anglin in Vienne *département*, Professor D. A. E. Garrod excavated an early Magdalenian


INTERNATIONAL CLAIMS IN ANTARCTICA
SOUTH AMERICA
Falkland Is
Cape Horn
South Shetland Is
South Orkney Is
South Georgia I
South Sandwich Is
ATLANTIC OCEAN
PACIFIC OCEAN
ANTARCTIC CIRCLE
Peter I I
Marguerite Bay
FALKLAND ISLANDS DEPENDENCIES (BRITISH)
ARGENTINE CLAIM
WEDDELL SEA
BYRD AND ELLSWORTH CLAIMS FOR UNITED STATES
CHILEAN CLAIM
Charcot I
Mt Jackson
Mt Markham
Mt Kirkpatrick
Mt Nansen
Mt Elizabeth
Mt Lister
Mt Hope
Mt Bowers
Mt Wilson
Mt Nash
Mt Rea
Mt Gauss
Mt Ruppert
Mt Sidley
Mt Hayes
Mt Murchison
Mt Markham
Mt Minto
Mt Kaufmann
Mt Herschel
Mt Lyttelton
Mt Haggard
Mt Dickason
Mt Dockery
Mt Fridtjof Nansen

rock shelter. The museum of Aix-en-Provence was enriched by finds at Entremont, the site of the capital of the Saluvii, long known as an important pre-Roman site. The excavations, started in 1943 for war purposes, resulted in finds of "severed heads"; their interpretation remained uncertain but the representation of a hand over the skull in some specimens, would appear to imply a protective symbolism. Other pieces appeared to be related to the practice of collecting the heads of enemies; a bas relief showing a warrior on horseback was interpreted as riding to the region of the dead.

An interesting and potentially important event took place when the Royal Anthropological Institute launched an appeal for the establishment, as soon as possible, of a Museum of English Life and Traditions. The appeal resulted from the institute's appointment of a committee called the British Ethnography committee, charged with examining and recommending on means of promoting the study of the ethnography of Great Britain A Museum of English Life and Traditions was the committee's first recommendation; a scheme was drawn up and published and the movement started; it was proposed to proceed first by trying to find storage for specimens, already rapidly disappearing, and then eventually to establish, in some large house with grounds, a museum with facilities for showing typical English village lay-outs. The plan was explained to the 1949 meeting of the British Association by the committee's deputy chairman, T. W. Bagshawe, who urged the need for quick action before too much was lost. It was also reported that the committee had nearly completed a collection of rules for classifying and indexing specimens and records. The museum scheme was fully described in *Man*, April 1949.

The Colonial Month, organized by the British Colonial Office, was of interest to anthropologists as it brought about a small but important exhibition of the traditional art of the British colonies, held at the Royal Anthropological institute. The bronze heads of Ife and the Nigerian terra cotta heads were outstanding pieces in the exhibition, which contained many other specimens not before shown or published. Also as a contribution to the Colonial Month, the subject of anthropology and colonial affairs was discussed at a public meeting of the Royal Anthropological institute, when the principal speakers were Professor E. E. Evans-Pritchard (who succeeded Professor C. D. Forde as president of the institute) and Professor R. Firth. A chair of social anthropology was established at Manchester university and Dr. H. M. Gluckman appointed the first professor. The institute's annual Huxley Memorial medal was awarded to James Hornell, distinguished for his work on water transport; his death before the delivery of the Huxley Memorial lecture was deeply regretted.

The British Association held its annual meeting at Newcastle-upon-Tyne under the presidency of Sir John Russell (*q.v.*). Outstanding among the many subjects discussed was the relationship between food and population. The problem set was that of producing to meet the needs of a world population of 2,200 million increasing at the rate of 20 million a year; the needs of such a mass could be met only by correlating the efforts of science in all branches; production must be increased but natural resources, already much impaired, must at the same time be restored; the balance of nature must be preserved and a symbiosis achieved between man and his environment. In the section for anthropology and archæology, Miles C. Burkitt, the president, spoke of the value of archæology in education.

The anthropological structure of Poland was the subject of a report by Ireneusz Michalski in *Acta Anthropologica Universitatis Lodziensis*. This dealt with measurements of 36,532 men collected through the Polish War Office and studied in relation to the types visualized by Professor Jan Czekanowski. The 16 maps in part two summarized some results. They showed that, though Nordic traits are generally distributed, they are specially characteristic near the lower Vistula, accompanied by darker elements described as Cromagnonoid (broadfaced and tall) and Mediterranean (medium to narrow face and short). On the other hand, elements described as Armenoid, Laponoid, Subnordic and Dinaric (broadheaded in all cases) are most characteristic of Upper Silesia, the Cracow area and the country northeastwards towards Radom.

An event of the year was the appearance of Dr. R. N. Salaman's book on *The History and Social Influence of the Potato* (Cambridge, 1949). He traced the tuber back to an Andean home and gave many clues to the social anthropology of European peoples who acquired it, a deep difference arising from the imposition of almost complete dependence in some cases and the utilization of the potato with some freedom of choice and as an accessory in others. Dr. Salaman summed up here a large part of the work of many years. Abbé Henri Breuil described in preliminary fashion a rock painting in Southern Rhodesia at Chikwandu. Its importance was due to the fact that the profile of the man was Semitic rather than African and the eye almost almond-shaped. Non-African figures were seen on a few rocks in Southern Rhodesia and this confirmation would, it was hoped, lead to an interpretation of what at first glance seemed like a link with Egypt of the centuries before Islam. In *Social Structure* (Oxford, 1949) a group of social anthropologists under the editorship of Dr. M. Fortes paid tribute to the life-work of Professor A. R. Radcliffe-Brown. Kinship structure was exhaustively treated by Dr. C. Lévi-Strauss in *Les Structures élémentaires de la parenté* (Paris, 1949). African race problems were surveyed in *Handbook of Race Relations in South Africa* (edited by E. Hellman, Oxford, 1949). The Rev. W. Schmidt produced another volume, the ninth, of his massive work, *Der Ursprung der Gottesidee* (Freiburg, 1949); this part dealt with Asiatic pastoral nomads. Professor E. O. James issued several volumes in the series of world religions which he was editing. (H. J. F.; F. St.)

United States. The steady growth of anthropology continued during 1949. This was shown especially by the large number of important publications that appeared during the year, by the growth of anthropology departments in the universities and by the expansion of field studies and various international activities. In the United States there was a large increase in membership of the American Anthropological association. The impressive growth in size and influence of this organization was due in large part to the efforts of its first executive secretary, Erminie Voegelin.

The 19th session of the International Congress of Americanists, held at the American Museum of Natural History in New York from Sept. 5 to 12, was attended by 395 anthropologists from Europe and the western hemisphere. Over 200 papers were presented and symposia were held on the subjects of early man in America, comparative studies in Peru, middle American and Andean relations, origin and relationships of the Eskimo, population in native America, language and culture, Afro-American studies, and modern Indian, mixed and Creole cultures. A special exhibit at the museum demonstrated striking parallels in art and material culture between America and the far east and raised anew the question of trans-Pacific influences in western America, something which most North American anthropologists had hitherto rejected.

Anthropological problems and the need for research programmes for the Pacific area were among the subjects discussed at the 7th Pacific Science congress which convened in Auckland and Christchurch, New Zealand, in February and March 1949.

The American Association of Physical Anthropologists began a new series, *Studies in Physical Anthropology*, under the editorship of W. W. Howells, the first number being a symposium, *Early Man in the Far East*, with papers on various aspects of Pleistocene geology, archæology, palæontology and somatology.

Two volumes bearing the title *Social Structure* appeared in 1949. One was a collection of essays edited by Meyer Fortes and presented to Professor A. R. Radcliffe-Brown by 11 of his pupils and colleagues. The other was a volume by G. P. Murdock. Basing his postulates on an analysis of 250 societies in all parts of the world, Professor Murdock presented a new theory of the evolution of social organization and showed for the first time that human and social behaviour could be analysed and predicted with a precision comparable to that in the exact sciences. Another paper was Julian H. Steward's *Cultural Causality and Law: a Trial Formulation of the Development of Early Civilizations*. In this paper, published in the *American Anthropologist*, Steward showed that there had been parallel stages or eras, each with similar diagnostic features, in the development of early civilization in northern Peru, middle America, Mesopotamia, Egypt and China. Leslie A. White's series of papers on the evolution of culture, which had a profound influence on anthropological thinking in the past, were assembled in a volume *The Science of Culture: a Study of Man and Civilization*.

Works which reasserted the importance of anthropology and the other social sciences in the understanding of present world problems included Clyde Kluckhohn's prize-winning book *Mirror for Man: The Relation of Anthropology to Modern Life*, and Alexander H. Leighton's *Human Relations in a Changing World: Observations on the Use of the Social Sciences*. Robert Endleman criticized the claims of anthropology as expressed by these and other authors in an essay *The New Anthropology: The Science of Man in Messianic Dress*, published in *Commentary*.

An unusually large number of important descriptive works in ethnography were published in 1949. Among these were *The Bella Coola Indians*, by T. F. McIlwraith; *The Comparative Ethnology of South American Indians*, vol. 5 of the Handbook of South American Indians, edited by Julian H. Steward; *The Lapps*, by Bjorn Collinder; *Palauan Society, a Study of Contemporary Native Life in the Palau Islands*, by Homer G. Barnett; *Majuro, a Village in the Marshall Islands*, by Alexander Spoehr; *Culture and Ethos of Kaska Society*, by John J. Honigmann; *The Bantu of North Kavirondo*, by Gunter Wagner; *The Tenetehara Indians of Brazil*, by Charles Wagley and Eduardo Galvão.

Other important publications of the year were *History of the Primates: An Introduction to the Study of Fossil Man*, by W. E. Le Gros Clark; *External Morphology of the Primate Brain*, by Cornelius J. Connolly; *Tepexpan Man*, by Hellmut de Terra, Janier Romero and T. D. Stewart; *The Web of Kinship among the Tallensi*, by Meyer Fortes; *Social Class in America*, by W. Lloyd Warner; *Magic, a Sociological Study*, by Hutton Webster; *Male and Female*, by Margaret Mead; *General Anthropology* and *Primitive War, Its Practice and Concepts*, by H. H. Turney-High; *Law and Government of the Grand River Iroquois* by John A. Noon; and *The Social and Religious Life of a Guatemalan Village*, by Charles Wagley.

There was a marked increase in field investigations during 1949. F. Eggan, chairman of the Department of Anthropology, University of Chicago, began a survey of social organization and culture in the mountain provinces of Mindanao and Visayan islands in the Philippines. Another Philippine research project was that of Grace L. Wood, who undertook ethnological studies among the Negritos and other primitive groups on Negros Island.

W. C. Pei of the Cenozoic Research laboratory, Peking Union Medical college, resumed excavations at Chou Kou Tien in search for further remains of Peking Man.

David G. Mandelbaum, professor of anthropology at the University of California, returned to southern India to resume his ethnological work with the Kota people in the Nilgiri area. Morris E. Opler also undertook research on village life in India. Alexander Spoehr began a year's programme of anthropological research for the Chicago Natural History museum on Saipan and the other Marianas Islands. His programme included a study of cultural change among the native Chamorros and archæological excavations to determine how the islands were originally peopled. The Pacific Science board of the National Research council continued its Micronesian investigations, with I. Dyen studying linguistics on Yap, and Ann Meredith making a study of the socialization process in the Truk area.

The Aleutian expedition of the Peabody museum of Harvard directed by William S. Laughlin, continued its archæological, anthropological and linguistic investigations on Umnak and islands to the westward. Frederica de Laguna began an ethnological and archæological survey of the northern Tlingit country in southeastern Alaska as part of an integrated study of the origin and development of Tlingit culture. A notable accomplishment in the field of Arctic anthropology was the independent discovery of pre-Eskimo cultural remains by J. L. Giddings at Cape Denbigh on Norton sound, by Helge Larsen in the interior of Seward peninsula and by Ralph Solecki on the north slope of the Brooks range in the interior of northern Alaska. Information on the distribution and movements of pre-historic Eskimo population in the little known northern part of the Canadian Arctic archipelago was obtained by H. B. Collins' excavation of old village sites on Cornwallis Island.

A new Department of Anthropology was established at Rutgers university, New Brunswick, New Jersey, with M. F. Ashley Montagu as chairman. Anthropology courses were offered for the first time at a number of other U.S. universities and colleges, including the Universities of Alabama, Mississippi, Arkansas, Virginia, Louisville, and Florida State university.

Two prominent anthropologists who died during the year were J. M. Cooper and L. Bloomfield. (H. B. Cs.)

ANTIGUA: *see* LEEWARD ISLANDS.

ARABIA. A peninsula of Asia of approximately 1,027,300 sq. mi. with a total population estimated at 9,526,000. It consists politically of two independent Arab states, Saudi Arabia and Yemen (*q.v.*); the independent sultanates of Oman and Masqat or Muscat; the autonomous sheikhdoms of Bahrein, Kuwait, Qatar, and the Trucial sheikhdoms; and Aden colony and protectorates (*q.v.*). Religion: overwhelmingly Moslem (Sunni). Language: Arabic.

Saudi Arabia. Area: *c.* 597,000 sq mi. (excluding the Rub al-Khali desert covering approximately 193,000 sq. mi.); pop. (mid-1947 est.): 6,000,000. Chief towns: Riyadh (cap., 60,000); Mecca (150,000); Median (45,000); Jedda (40,000); Hufuf (31,500). Ruler, King Abdulaziz Ibn Abdurrahman Ibn Faisal Ibn Sa'ud; viceroy of Nejd and commander in chief, Emir Sa'ud, crown prince; viceroy of Hejaz and minister of foreign affairs, Emir Faisal.

History. The United States and Saudi Arabia announced on Jan. 21 that they had agreed to raise the status of their respective missions to the rank of embassies. On presenting his letters of credence as ambassador to President Truman on March 4 Sheikh Asad al-Faqih revealed that the American community in Saudi Arabia numbered 5,000. This, he said, was a remarkable development which was accompanied by a

rapid growth of mutual interest and which had become of great importance not only to the general welfare of the two peoples but also to the peace and prosperity of Europe and the rest of the world. Although he could not say that during his three years as minister in the U.S. the Arab cause had fared well, he was convinced that the American people would in due course realize its genuine aspects. The U.S. aircraft carrier " Tarawa " paid a good will visit to Jedda in January. The agreement with the U.S. regarding the use of Dahran air base was extended temporarily on March 15 pending final negotiations.

The economic development of the country continued. Oil production during Jan.–July 1949 averaged over two million metric tons a month (not far short of that of Persia). On this the Saudi government received royalties at the rate of $50–60 million yearly. On March 4 it was announced that a U.S. company, the Pacific Western Oil corporation, had obtained an oil concession covering Saudi Arabia's undivided half interest in the Kuwait-Saudi neutral zone. A first year's minimum royalty of $1 million was paid over on Feb. 21.

A large number of American and some British engineers and specialists, together with skilled men from Moslem countries, were employed on public works, including rail and port construction, roadmaking, an electricity installation in Mecca and a broadcasting transmitter at Jedda.

The British Military mission, established in 1947, continued the training of Saudi officers and N.C.Os. Steps were taken, too, to buy from the U.S. some light naval craft for coastal patrol work; and the Egyptian government was asked to provide a naval mission to train officers and crews. Egypt was also asked in May to assist in forming a customs administration and in August to lend some professors to act as educational inspectors.

A trade treaty with Egypt, valid for one year, was signed in Cairo on May 31. It was on the basis of most favoured nation treatment and had annexed to it a payments agreement. It provided, too, for a permanent exhibition of Egyptian products at Jedda.

Prince Mansur, ninth son of the King and minister of defence, visited Great Britain for the first time in September and was taken to see army and air force training establishments. In Arab League politics King Ibn Sa'ud generally supported Egypt. (C. Ho.)

Finance. The monetary unit is the Saudi *rival*, nominally equal to Rs. 1 (Indian), which fluctuates strongly. The recognized standard is the George V gold sovereign. The chief sources of revenue are oil royalties (over £20 million yearly) and pilgrimage dues (1946 est. £1,600,000)

Industry. Crude oil production (in '000 metric tons, 1948, 1949, six months in brackets) 19,260 (12,410)

Foreign Trade. Main imports. food products and electrical goods. Main exports: oil, gold concentrates, hides and skins.

Transport and Communications. Licensed motor vehicles (Dec. 1948). cars 3,990, commercial vehicles 5,000. Air transport (1947). hours flown 5,167, mi. flown 774,453, passengers flown 18,663.

Finance. Chief sources of revenue are the petroleum resources and the annual Moslem pilgrimage.

Oman and Masqat. Area: *c.* 65,000 sq. mi. Pop. (mid–1947 est.): 830,000. Ruler, Sultan Said Ibn-Taimur. British political agent, R. Eldon Ellison.

Bahrein. Area 213 sq. mi. Pop. (mid–1947 est.): 125,000. Ruler, Sheikh Sir Sulman Ibn-Hamad al-Khalifah. British political agent, C. J. Pelly.

Kuwait. Area: *c.* 9,000 sq. mi. Pop. (mid–1949 est.): 120,000. Ruler, Sheikh Sir Ahmed Ibn-Jabir al-Subah. British political agent, Lieut. Colonel A. C. Galloway. Oil production was more than 6 million metric tons in the first six months of 1949, against 6·4 million tons in 12 months of 1948.

Qatar. Area: *c.* 4,000 sq. mi. Pop. (mid–1947 est.): 25,000. Ruler, Sheikh Abdullah Ibn-Jasim al-Thani.

Bernard Burrowes, head of the eastern department of the British Foreign Office, visited Oman, Bahrein, Kuwait and Qatar in May and was reported on his return to be drawing up plans for the social and economic development of the principalities.

Trucial Sheikhdoms. Area: *c.* 16,000 (including the sheikhdoms of Shargah, Ras al Khaimah, Umm al Qawain, Ajman, Debai, Abu Dhabi and Kalba). Pop. (mid–1947 est.): 115,000.

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ARAB LEAGUE. The League of Arab States came into being on March 22, 1945, when its covenant was signed in Cairo by the representatives of Egypt, Iraq, Lebanon, Saudi Arabia, Syria, Transjordan and Yemen. The council of the league, on which each member has one vote, has its seat in Cairo. The main object of the League was stated to be to co-ordinate the political action and safeguard the independence and sovereignty of the Arab states. Secretary general: Abdurrahman Azzam Pasha.

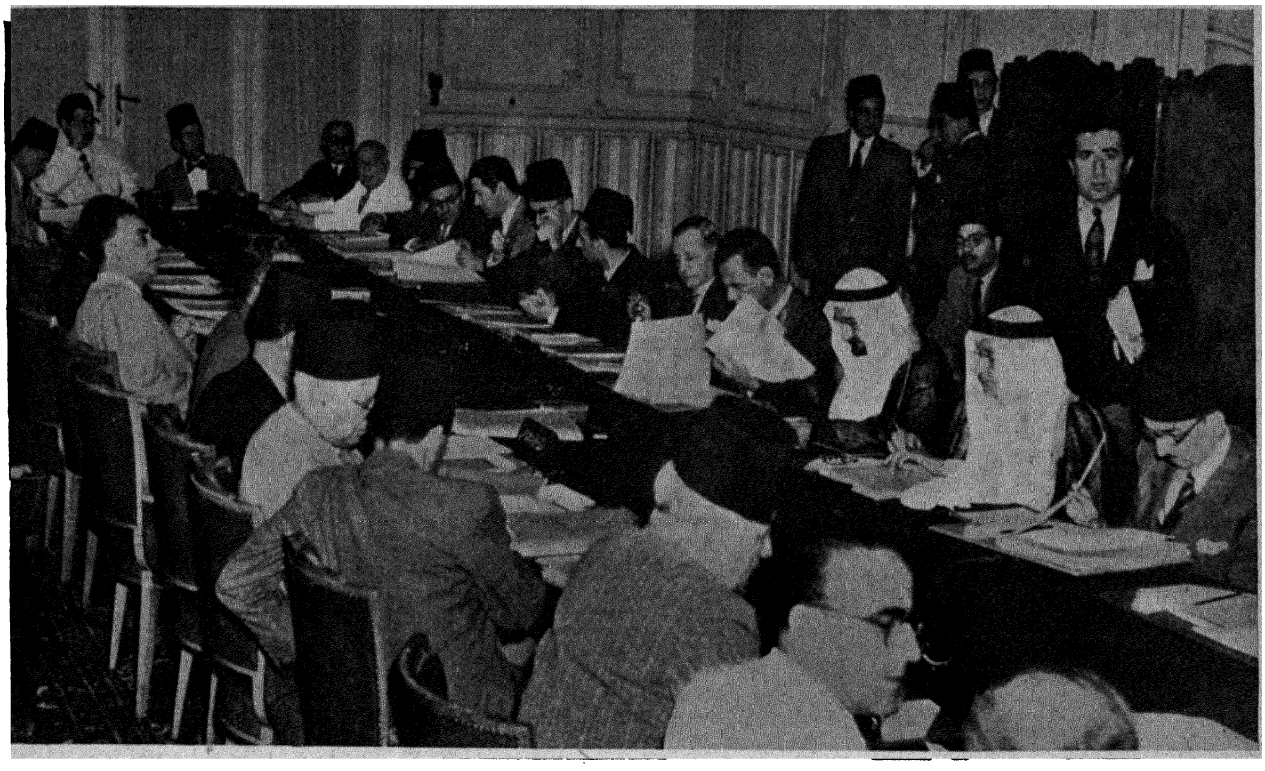
The Palestine conflict and the problem of the Arab refugees continued to preoccupy the league in 1949. It was however much weakened by differences among its member states. Representatives of all member states except Jordan met in Cairo on Feb. 6 to discuss the invitation of Dr. R. J. Bunche (*q.v.*), United Nations mediator, to join Egypt in the armistice negotiation with Israel at Rhodes. The U.N. Conciliation commission was received in Cairo on Feb. 14 by the secretary general. In the upshot the armistice agreement was signed on Feb. 24 by Egypt alone; Jordan, Syria and Lebanon each negotiated separately, and Iraq and Saudi Arabia declared themselves ready to accept any agreement signed by the other Arab states.

At the 10th session of the council, held in Cairo on March 17-21, the members were represented by their diplomatic representatives in Egypt. The secretary general told the press that Iraq (*q.v.*) had not sent any apology or explanation for the non-attendance of its representative. No proceedings of importance were reported.

The political committee on March 21 began discussions on Palestine and the Arab refugees with the U.N. Conciliation commission in Beirut. Discussions were closed on April 5, after the commission's suggestion to continue negotiations soon at a neutral place had been accepted by all the delegates except that of Iraq who said his government were disinclined to continue discussions before the refugee problem had been solved. The place subsequently chosen was Lausanne, where a conference, attended also by Israel, began on April 27 and continued with adjournments during the year, an Economic Survey group being appointed to study the question of the Arab refugees on the spot.

Events in Syria (*q.v.*) much aggravated the differences among the member states. The secretary general, who had visited Husni ez-Zaim in Damascus on April 17, on May 8 called for an urgent meeting of the council so that he might answer the charges made against him by the Iraqi foreign minister of having exceeded his jurisdiction. On May 23 a statement addressed by Azzam Pasha to the president of the Iraqi Chamber of Deputies was published. It said that he had taken no steps, taken part in no activities and approved no measures other than those unanimously authorized by the League council.

Despite persistent efforts in many quarters and particularly by the prime minister of Lebanon (*q.v.*) a further meeting of the political committee could not be arranged. One arranged for Aug. 20 at Alexandria was adjourned at Egypt's request owing to events in Syria. The council did however hold a meeting in Cairo on Oct. 17 where it was unanimously decided to support the Egyptian delegate to U.N. in his attitude on the future of Eritrea. The meeting ended on Oct. 30 with a decision to set up a committee to draft a security pact between the seven member states. (C. Ho.)



A view of the council of the Arab League, meeting in the Egyptian Foreign Office, Cairo, in Oct. 1949. Delegates were present from Egypt, Iraq, Jordan, Lebanon, Saudi Arabia, Syria and Yemen.

ARAGON, LOUIS. French writer (b. 1897), served in the last year of World War I. Two years later his first book of poems, *Feu de joie*, appeared and was followed by *Le Libertinage* (1924) and *Le paysan de Paris* (1926). He was among the advance guard of the Surrealist movement until, in 1930, he became a member of the Communist party and visited Russia. His change of political views found expression in such poems as *Front Rouge* (1931), for which he was prosecuted on a charge of having abused the French flag. He became secretary of the French section of the popular front, a member of the editorial staff of *L'Humanité*, then managing editor of *Ce Soir* and later also joined the board of directors of *Europe*. A week before the outbreak of war in 1939 *Ce Soir* was temporarily suppressed. Aragon joined a tank division and later took part in the resistance movement. After the war he continued to engage in literary and journalistic activity and resumed the editorship of *Ce Soir*. In Sept. 1949 he was charged with having menaced public order and was deprived of his civil rights as the result of an article which had appeared in *Ce Soir*. On Oct. 26, however as the result of an appeal he was acquitted and the sentence was quashed.

Aragon was awarded the Prix Renaudot in 1936 for his novel *Les Beaux Quartiers*, the second of a trilogy of which the other two were: *Les Cloches de Bâle* (1934) and *Les Voyageurs de l'Impériale* (1941). He afterwards published, among other works, two volumes of poetry, *Le Crève-Coeur* (1941) and *Les yeux d'Elsa* (1942), and a novel, *Aurélien* (1945). He married Elsa Triolet, a Russian writer to whom many of his works are dedicated.

ARCHÆOLOGY. In 1949 the story of the discovery and the investigation of the Hebrew scrolls from the Dead sea cave probably attracted most attention. Among the more important events were the further examination of Karatepe, Turkey; the palæolithic cave-finds in France; the Maglemosian site in Yorkshire; and the recognition of the south Algerian *limes*.

Great Britain. Further exploration of the stone-axe factory site at Pike o' Stickle, Great Langdale, Westmorland, confirmed that the finishing processes were carried out at a lower altitude. A small cave in the area proved disappointing. Products of this factory were apparently traded more widely in Britain than those of the better-known Craig Lwyd site in North Wales (*Trans. Cumberland and Westmorland A. and A. Soc.*,48, 214, 1949).

At Starr Carr, Seamer, six miles south of Scarborough, Dr. J. D. G. Clark excavated for the Prehistoric society a Maglemosian site of *c.* 8000-6000 B.C., discovered by J. W. Moore, and found strikingly abundant evidence for conditions of life in Mesolithic Britain, the peaty nature of the site having preserved large quantities of organic material. There were even structural remains in the form of rough birch-bark flooring held down by heavy stones. Bones were found of red and roe deer, elk and ox, as well as smaller animals and birds. Red deer antlers were used for making barbed points (" harpoons "), of which 60 were found; the cutting was done with burins knapped on the spot. Other implements or weapons were: scrapers, microliths and rough stone axes; an axe made from the base of an elk antler; scoops and chisels of red deer antler. There were also well preserved birch-bark rolls. The site proved to be closely linked with its counterparts across the North sea and comparable with them in importance.

In the Scilly Islands B. H. St. J. O'Neil and his wife continued their work and excavated a Bronze Age house at English Island Cairn. Roughly oval in plan, it had three occupation layers, from the middle one of which came potsherds assigned to *c.* 1000 B.C. At a nearby site, Par Beach, they examined a well built round house of native construction associated with the 4th-century Roman pottery.

At Meare lake village, Somerset, H. St. George Gray examined three dwelling-mounds. Among numerous bronzes, which included ornamented cheek-pieces, was a spoon of Roman type probably imported from the continent towards the end of the Early Iron Age.

At Snettisham, Norfolk, late in 1948 three Iron Age hoards were found, with interesting affinities with the Rhineland. One consisted of fragments of at least three gold torcs; the others were mainly of bronze and included 3 torcs, 7 bracelets, 11 rings and various fragments; the third hoard also contained 77 coins.

In Roman studies the main event of the year was the centenary pilgrimage along Hadrian's Wall, which provided an opportunity for re-stating the latest views on the main Roman frontier in Britain. It was shown that the Wall, with its milecastles, turrets and *vallum*, formed a single conception, carried out in A.D. 122-126. From Newcastle to the Irthing (45 mi.) it was designed 10 Roman feet thick with a clay or earth core. West of the Irthing, in view of the shortage of stone and especially of limestone for mortar, the Wall was of turf or clay. Before the stone wall was completed, however, its construction was modified: its western part was finished to a width of only 8 ft. with a mortar core; it was extended eastwards to Wallsend and westwards for a further two mi.; finally the whole line was strengthened by the introduction of forts, each intended to hold 500 or 1,000 auxiliary troops. The change of military policy under Antoninus Pius led to the construction of a new frontier barrier between the rivers Forth and Clyde and consequently the virtual abandonment of Hadrian's Wall—an event with which the well-known "crossings" of the *vallum* might be associated, if, as it was suggested, they represented a formal cancellation of that earthwork. Later in the century, however, the Wall was re-occupied and its west end reconstructed in stone. Views held on the later history of the frontier showed less modification since the 1930 pilgrimage, but the extent of the Diocletianic reconstruction received increasing attention. The pilgrimage was succeeded by a Congress of Frontier Studies, attended by scholars from many parts of the Roman empire and organized by Durham university. This was to become a quinquennial event.

Near Carrawburgh fort a well preserved *mithræum* was partly excavated and three inscribed altars found. At Bewcastle, Cumberland, the regimental bath house was found to have been inside the fort; it also was well preserved and resembled the bath house at Chesters in plan. Dr. I. A. Richmond excavated the central portion of the fort at South Shields, Co. Durham, uncovering a large group of granaries associated with the Scottish campaigns of Severus. Other work on Roman military sites included the excavation at Malton, Yorks, of a building, possibly a *mansio*, with hypocaust and mosaic floor, south of the fort; a fort gateway with flanking guard-chambers at Neath, Glamorgan, where the earliest (Flavian) finds were associated by Dr. V. E. Nash-Williams with the conquest of the Silures by Julius Frontinus; and the remains of the legionary fortress at Chester.

The study of Roman towns, especially in bombed areas, continued. In London the Roman and Mediaeval Excavation council located an early 2nd-century town wall with clay backing; it was superseded about the middle of the century or a little later by similar composite defences on an inner line; to this wall hollow bastions were added during the 4th century. Bombed sites in Canterbury, excavated by S. Frere, produced evidence for the Roman street-plan; it is possible that the 1st-century plan was modified when the town walls were built in the 2nd century. A large bath-building of semi-public character was uncovered. At Verulamium (St. Albans) the centre of the Roman city was examined and a large public building of massive construction found.

Of other discoveries the most striking was that at Lullingstone, near Farningham, Kent, where a wealthy villa produced a mosaic pavement depicting Bellerophon upon Pegasus and a Rape of Europa with a somewhat provincial couplet, both ascribed to about A.D. 300. Most remarkable were two busts of Pentelic marble probably of early 2nd-century date. Another villa, of corridor type, excavated at Whittington Court, Gloucestershire, retained its geometric mosaics and channelled hypocausts of 4th-century date. A pottery kiln excavated near Lincoln produced a complete range of "kiln furniture."

Later sites examined included Petersfinger, near Salisbury, where a 6th-century Saxon cemetery was found to contain Frankish elements; The Mounts, Pachesham, near Leatherhead, Surrey, the site of successive manor houses abandoned towards the end of the Middle Ages; and, most important, the London Charterhouse of which the great church, with burial place of the founder, and the cloister had been traced by the London Excavation council.

Europe. *France.* Professor D. A. E. Garrod reported an important find by Mlle. G. Henri-Martin of fragments of two skulls in a cave at Fontéchevade, near Montbron, Charente, with rough flint implements of Tayacian character. The larger skull was comparable to that from Swanscombe. Despite certain primitive features it stands in the same line of descent as Homo Sapiens and has indeed a high vertical forehead. Prof. Garrod pointed out that the contrast between the rough implements from Fontéchevade and the well made implements (mid-Acheulian) found with the Swanscombe man accorded ill with "the seductive theory that links certain well defined industrial complexes with certain human types." She also reported that her excavations (with Mlle. S. Mathurin) of the prehistoric rock-shelter at Angles-sur-l'Anglin, Vienne, produced a naturalistic representation of a Palæolithic (Early Magdalenian) man, executed in stone in a technique combining sculpture, painting and engraving. Among several animal carvings that of a young ibex was noteworthy.

At La Colombière, on the banks of the Ain, 45 mi. from Lyons, Dr. K. Bryan and Dr. H. L. Movius, of the Peabody museum, Harvard, examined the late Pleistocene terraces, which were found to belong to Wurm times, and a rock-shelter associated with them. In addition to a decorated bone object of Magdalenian date and upper Aurignacian tools, the main find was an engraved pebble bearing superimposed animal outlines depicting horse, reindeer, ibex and woolly rhinoceros.

Finds made during work in war-damaged towns included quantities of 6th-century B.C. Greek pottery at Marseilles, among which was a figure of Aphrodite; and a bronze vessel from Amiens, similar to the "Rudge cup" and to a fragmentary example from Spain. Like the "Rudge cup" it is inscribed with the names of forts on Hadrian's Wall, with the additional name of Aesica (Great Chesters).

Germany. Excavations in bombed areas took place at Trier and Cologne, producing details of the Roman city and of what was thought to be remains of a monastery of the St. Gall type and period respectively.

Denmark. G. Hatt published a survey of ancient field systems in Denmark (*Oldtidsagre*, Copenhagen, 1949). They were mainly early Iron Age in date and were eventually superseded by the heavy plough and strip-field system. Comparative material, especially from Holland and England, was included in the survey.

Italy. Alba Fucens, the stronghold of the Aequi, situated near Avezzano (Abruzzi) on the Via Valeria was partly excavated. Part of the city plan and of the Via Valeria were explored, the finds including inscriptions and terra-cottas.

Greece. The American School of Classical Studies at Athens reported about its work in the Agora, in particular the excavation of a fountain house, which may be the Enneakrounos, in the southwest corner of the market square and excavations in the valley west of the Areopagus, where a

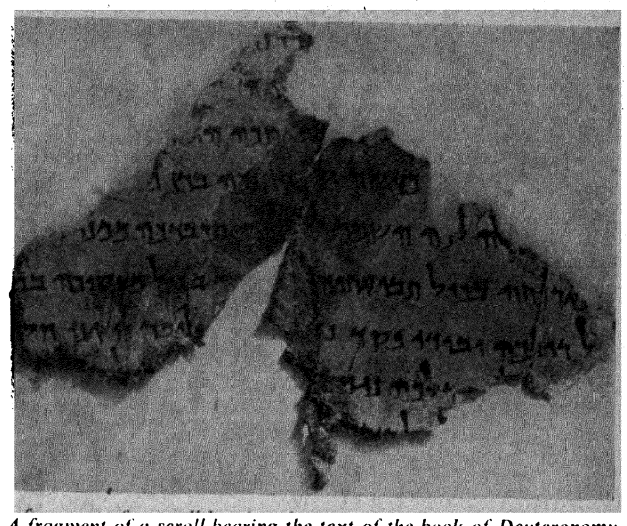
rich cremation-burial of *c.* 900 B.C. and a group of 5th-century B.C. houses were found (*Hesperia*, 18, 1949). In the same volume S. S. Weinburg recorded small-scale work by the American school at Corinth, where the theatre, south *stoa*, and the Julian and south basilicas were tested. The two latter were found to be identical in plan.

Middle East. *Cyprus.* Dr. Claude F. A. Schaeffer, director of the French Centre of Scientific Research, Paris, reported his discovery of the ancient city associated with the previously known Mycenaean cemetery at Enkomi, near Famagusta, and identified it, through the Tell Amarna letters, with Alasia, the ancient capital of the island, a centre of the copper and bronze industry. The earliest remains dated from the beginning of the second millenium B.C. Later came the Mycenaean city, covering the 15th-13th centuries B.C., during which time the city was strongly fortified; and lastly a post-Mycenaean period of 13th-12th centuries B.C. Subsequent work by the Cyprus Department of Antiquities under Dr. P. Dikaios produced, from what may have been a shrine in an impressive palace building, a remarkable bronze statue, two feet high, of a horned god, deposited in the 12th or 11th century B.C.

Turkey. Professor H. Th. Bossert, director of the Department of Near Eastern Studies, University of Istanbul, and his colleagues (Dr. Halet Çambel, Dr. Bahadir Alkim, Dr. Nihal Ongunsu, Dr. Franz Steinherr, Dr. Muhibbe Darga-Anstock and Ibrahim Süzen) reported about their further work at the two Hittite fortresses of Karatepe and Domuztepe, bordering the Cilician plain, on both sides of the river Ceyham (ancient Pyramos). At Karatepe the surrounding wall, which had square interval-towers, had north and south entrances with long gate-passages flanked by inscribed and sculptured slabs. The inscriptions are half in Old Phœnician and half in Hittite hieroglyphic script and, since they apparently record the same events, constitute a series of " Rosetta stones." They are dated *c.* 730 and their deciphering should fill a great gap in the history of the region. The slabs bearing figure subjects were apparently carved *in situ*; the figures, generally in profile, vary greatly in subject matter, including religious or mythological scenes and scenes from the life of the royal family or the people—banqueting and hunting scenes, warriors and ships. Artistically and iconographically Egypt, Mesopotamia, Anatolia and Syria had all been laid under contribution. (*Belleten*, 12, 529, Ankara, 1948; *Palestine Explor. Qly.*, Jan.-April, 1949; *Oriens*, 1, no. 2, Leiden, Holland, 1945-49).

Professor A. W. Persson reported discovering at Labranda, 9 mi. north of Milas (ancient Mylassa) and about 85 mi. S.S.E. of Izmir (Smyrna), a peripteral temple of Zeus like that of Athena Pollias at Pirene. Epigraphic finds included building-inscriptions of Maussollos (d. 353 B.C.) and Idreius (d. 344 B.C.) and clay tablets bearing partly a script of Carian character and partly one related to Old Phœnician and Minoan scripts. (*Arsberettelse*, Uppsala, Sweden, 1949).

Palestine. Fuller details became available of the discovery and nature of the Hebrew scrolls, found in a cave on the shores of the Dead sea about 6 mi. south of Jericho, and the vexed question of the approximate date of their deposit was settled by an excavation carried out by G. L. Harding, chief curator of antiquities, Jordan, in collaboration with the Ecole Biblique et Archéologique of Jerusalem and the Palestine Archæological museum. The scrolls, wrapped in linen squares, were stored in large, lidded jars of the late 2nd or early 1st century B.C. The jars, to judge by the fragments, were about 40 in number and could each have held five or six scrolls. Of the eight known to have been removed by the goatherd finders, four, now in the United States, comprise Isaiah, a commentary on Habakkuk, a book of ritual (the *Sectarian Document*) and part of Enoch in Aramaic;



A fragment of a scroll bearing the text of the book of Deuteronomy found in Palestine and thought to be 2,000 years old.

the other four, now at the Hebrew university of Jerusalem, *The War Between the Children of Light and the Children of Darkness* (an unknown apocryphal book), part of Isaiah, a book of hymns and psalms and one not yet read. Harding's clearance of the cave produced many fragments which included portions of Genesis, Deuteronomy, Leviticus, Judges and Daniel. The lined documents are written mainly in post-Exilic script, but some, in Phœnician script, are probably earlier. It is possible that the presumed absence of many scrolls may be associated with the find of Hebrew scrolls in A.D. 217, recorded by the 3rd-century writer Origen.

The end was reported (*Palestine Explor. Qly.*, Jan.-Apr., 1949) of several years' work on the great Umayyad baths (*c.* A.D. 724-743) at Khirbet Mafjar, near Jericho. The main structure (135 ft. by 110 ft.) had a colonnaded hall 90 ft. square; the roof, supported by 16 piers, 6 ft. square with angle-shafts, probably rose by stages to a high dome over the central bay. Each wall had three semi-circular *exedræ*, except the east wall, where the central bay contained the entrance; this led to an elaborate porch, a domed structure decorated with male and female statues. The central *exedra* of the west wall was more richly decorated than the others. The central three bays of the south side of the hall were occupied by a swimming-bath. The paving was well preserved and there were many architectural fragments. Doorways in the north wall led to a series of hot rooms and to a domed room, elaborately decorated with mosaic paving and carved plasterwork.

Discoveries under the ægis of the government of Israel included a Samaritan synagogue of Hellenistic times near Tel Aviv; mosaic pavements in Jerusalem; prehistoric finds at Evron, between Acre and Naharia; and Hellenistic marbles from Cæsarea, Nathania and Tivon.

Persia. T. Burton Brown, research fellow of the British School of Archæology in Iraq, reported on the British expedition to northwest Persia, which carried out trial excavations at Geoy Tepe, 4 mi. southeast of Rezaiyeh (Urmia). The earliest levels produced remains like the al Ubaid culture of Iraq (*c.* 3000 B.C.). Later levels showed instructive affinities with near eastern and especially Ægean civilization, of the first three millenia B.C. and included a remarkable series of stone figures with unknown hieroglyphs.

Iraq. Work continued on the pre-Hammurabic administrative centre at Tell Abu Harmal, near Baghdad. The plan of the interior was completed and further inscribed tablets found, some from early levels. At Tell Abu Shahrein (ancient Eridu) further excavation revealed a large public building of brick

with fragments of Sumerian sculpture similar to that at the contemporary "A" palace at Kish.

Africa. *Egypt.* In Alexandria recent excavations directed by Alan Rowe, curator of the Græco-Roman museum in that city, located the temple of Serapis, now assignable to Ptolemy III (241-221 B.C.), near the column of Diocletian. It formed the north end of a colonnaded enclosure 560 ft. by 250 ft. wide, with accommodation on the west for temple officials and, to the south, a series of small rooms which were thought to have contained the Serapeum library. The temple was rebuilt early in the 2nd century B.C. and was destroyed by the Patriarch Theophilus in A.D. 391. East of the temple was a shrine of Harpocrates dedicated by Ptolemy IV (221-203 B.C.).

At Thebes an avenue of monolithic sphinxes, with portrait heads of Nectanebis I and dedicated by him to Amon, was found under a Roman pavement.

Sudan. The excavation of Amarah was continued and results pointed to peaceful evacuation of the city in late Ramassid times, probably for climatic or political reasons. A brick-built shrine outside the town was evidently the centre of a snake cult for it was surrounded by pots containing skeletons of snakes.

Tripolitania. The examination of Sabratha, 45 mi. west of Tripoli, was continued by Dr. J. B. Ward-Perkins and Miss K. Kenyon. Sabratha owed its wealth to olive oil exports and the general trade of the north African hinterland. It was given colonial status in the 2nd century A.D., survived, though not undamaged, successive barbarian invasions and was reconstructed by Justinian. Some traces of the earlier Punic city were found but work was concentrated on the survey of the remains and the study of their history and development. Buildings examined included the basilica (later a Christian church) and forum; buildings associated with the latter were a curia, a capitolium and temples to Liber Pater and Serapis. The same workers planned and recorded the 4th-century " hunting baths" (so-called from their scheme of decoration) at *Leptis Magna.*

Algeria. An air survey produced the important information that substantial remains survived in southern Algeria of a Roman *limes.* Its complexity ranks it with, though after, Hadrian's Wall. (J. Baradez, " Vue aérienne de l'organisation romaine dans le Sud-Algérien," *Fossatum Africae*, Paris, 1949). (J. CHN.)

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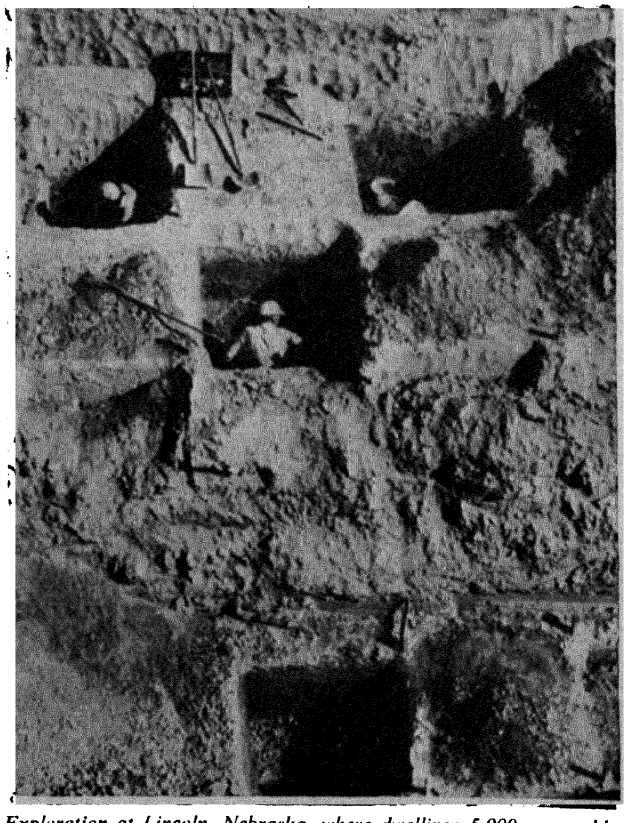
Western Hemisphere. Although there were substantial gains in knowledge of the archæology of the western hemisphere during 1949, the most outstanding event was a demonstration of a system of absolute dating of certain kinds of archæological remains by means of the radioactivity of the carbon isotope (C14). The new method, archæo-radiochemistry, was developed by Dr. W. F. Libby and Dr. James Arnold of the University of Chicago. By measuring the radioactivity of the carbon isotope in wood, charcoal, shell, horn, ivory and vegetal remains found in ancient archæological sites, the age of the site could be determined with a remarkable degree of accuracy. An impressive number of sites in the western hemisphere were dated by the radiocarbon method and the results would probably be released in 1950.

Arctic Area. Under the auspices of the Smithsonian institution and the National Museum of Canada Dr. Henry B. Collins assisted by J. P. Michea excavated a number of ancient Eskimo sites on Resolute bay, Cornwallis island in the hitherto archæologically unknown Canadian arctic archipelago. Ruins of four villages of from 6 to 14 well preserved houses of Thule culture type were excavated. Over 1,000 characteristic Thule artifacts were excavated from the houses and middens. A number of fine examples of pictographic art were obtained as well as a style of composite pottery and stone lamp previously unknown. The excavations revealed that bow head whales and drift wood were abundant at the time of the Thule occupancy although they have been absent from the region in modern times.

A joint expedition of the Danish National museum and the University of Pennsylvania museum conducted archæological investigations on several sites on the Seaward peninsula in Alaska during the summer. The expedition was led by Dr. Helge Larsen assisted by Charles Lucier. A previously unknown phase of Ipiutak culture was found beneath a late Eskimo village midden at Cape Spencer. Iron knife blades and elaborate carvings of ivory were found in the Ipiutak levels. Two sites were excavated at the Deering airfield. One of these sites was western Thule, the other was Ipiutak with artifacts identical to those of the type site at Point Hope. In a limestone cave 30 mi. from Deering, stratified deposits revealed a sequence from what may have been pre-Eskimo culture to recent Eskimo culture in the uppermost levels.

During the summer, with a grant from the Arctic Institute of North America, Dr. Louis Giddings of the University of Alaska continued his excavations at Nukleet and Iyatayet on Cape Denbigh in Norton sound, Alaska. He was assisted by Mr. and Mrs. Wendell Oswalt. Excavations at Nukleet were carried through the permafrost to bedrock revealing several stages of Eskimo culture. The oldest level showed relations with Early Punuk or Birnirk cultures. Quantities of well preserved artifacts made of organic materials were found.

At Iyatayet the upper layers contained artifacts similar to those found at Nukleet. In the lower levels Ipiutak-like artifacts of flint were found. And underneath the site, sealed by a sterile layer of sandy clay was a thin, bottom deposit containing nearly a thousand chipped stone artifacts. Included



Exploration at Lincoln, Nebraska, where dwellings 5,000 years old were discovered by E. Mott Davis.

in the lithic complex were burins and lamellar knives of styles known from the Old World and additional types of artifacts known from Folsom or Yuma horizons in the western states. With the Folsom and Yuma-like materials was a fluted point and a broken blade of the type known as " oblique Yuma."

As part of the Harvard university anthropological project in the Aleutian Islands during the summer, archæological investigations were undertaken under the direction of Dr. William Laughlin. Excavations were made at sites on Clam lagoon, Adak; at Nikolski on Umnak; and at Nurder point on Attu. At least two periods of Aleut culture were recognized and Hrdlicka's idea that there were two morphological types involved in the peopling of the Aleutians was confirmed.

Eastern North America. Under the direction of Raymond Baby assisted by Robert Goslin an Ohio State museum field party excavated two sites in Ohio during the summer. A large Adena mound in the Cowan Creek reservoir area contained 18 burials, some in log tombs and one in an underground pit. Beneath the mound was a circular house pattern of paired post moulds; pottery, other artifacts and food refuse were about the house. In the Delaware dam area a communal burial in a glacial kame was excavated. Fragments of charred fabric and artifacts of stone, copper and shell were recovered.

A field party led by Dr. William A. Ritchie worked in eastern New York under the joint sponsorship of the Rochester museum and the New York State museum. The party explored an early Mohawk site in the Schoharie valley where Owasco-like chipped stone artifacts were associated with Mohawk type pottery. In the same valley an early Owasco site was partly excavated; late period Owasco sites were not found. Another and larger early Owasco site was excavated at West St. Johnsville in the Mohawk valley The pottery exhibited the use of interrupted incising technique for applying decoration. This technique might foreshadow the incising technique of Iroquois potters.

William S. Fowler of the Attleboro museum undertook investigations of two sites in New England. He assisted the Narragansett Archæological Society of New England in completing excavation of a stratified shell midden containing a pre-pottery, steatite bowl occupancy beneath a pottery-agriculture level. At the Nunkatuset site in the Taunton River basin in Massachusetts evidence of three cultural horizons was found: the earliest level marked by ulus, plummets, ground slate objects and grooveless stemmed gouges; the middle level marked by steatite bowls; and the top level characterized by pottery

Southwestern United States. The University of Utah Field School of Archæology under the direction of Dr. Jesse D. Jennings made an archæological survey of the upper Virgin river area in Washington county, Utah, and excavated the Jukebox and Danger cave sites near Wendover in Tooele county. The caves contained ancient pre-ceramic cultures overlain by cultures with pottery.

The Upper Gila expedition of the Peabody Museum of Archæology and Ethnology, Harvard university, under the direction of Dr. J O. Brew carried out archæological survey and excavation of sites in west central New Mexico about 40 mi. south and east of Zuni Pueblo. A Pueblo II and a large Pueblo III site were excavated.

Pacific Coast. Under the direction of Douglas Osborne assisted by Joel Shiner seven sites in the McNary reservoir of Oregon were investigated for Washington State college and the Smithsonian River Basins survey. Buried middens or the bottom levels of deep middens produced artifacts of basalt and of a different style.

A party directed by Clement Mughan undertook excavations in a shell mound at Drakes bay in search of Caucasian artifacts derived from a Spanish galleon wrecked there in 1595.

Under the direction of Dr. M. R. Harrington a Southwest museum field party carried out excavations in the Pinto Site at Little Lake, Inyo county, California. Two circular houses, the largest 12 ft. in diameter, were outlined by post holes. The site produced many Pinto points and some Lake Mohave and Silver Lake types, along with scrapers, gravers, crude metates and manos.

Central America. In Mexico the many archæological activities of the National Museum of Anthropology, the Institute of Anthropology and History and the Direction of Prehispanic Monuments continued. Among the numerous projects of these government institutions were investigations at Teotihuacan and Xochicalco at the middle archaic period site of Tlatilco and clearing and restoration of the Mayan site, Palenque.

The Peabody museum, Harvard university, expedition to Costa Rica, directed by Dr. S. K. Lothrop, made a survey of the southern Pacific plains on lands of the United Fruit company Testing of stratified deposits revealed three periods of ceramic styles. The early style was reminiscent of Amazon valley pottery and the intermediate style might be ancestral to both classical Chiriquí and classical Coclé.

South America Financed by a grant from the Viking fund and a Cutting fellowship from Columbia university Mr. and Mrs Clifford Evans, Jr , undertook archæological investigations in the lower Amazon basin of Brazil during the first half of the year. Mounds on central Marajó island were excavated. Three mounds of the Monte Carmelo group along the Rio Anajas were investigated and 20 village mounds and one cemetery mound were excavated in the Igarapé Os Camutins in the headwaters of the Rio Anajas. These investigations revealed six separate phases of occupation in the islands of Marajó, Mexiana, and Caviana and two additional phases in the Territory of Amapá. (G. I. Q.)

ARCHERY. At the 1949 international tournament, held in Paris in August, the ladies' championship was won by Barbara Waterhouse (Great Britain), with R. Windahl (Sweden) second, T. H. Fisher (Great Britain) third, and M. de Wharton Burr (Great Britain) fourth. The British ladies won the team events with Sweden second. The men's title was won, for the third time, by Hans Deutgen (Sweden) who beat Hadas (Czechoslovakia); E. Tang Holbek (Denmark) was third. Teams—Czechoslovakia first, Sweden second, Denmark third.

In Great Britain the Grand National Archery society decided that their national championships should be shot in one direction only, instead of in two directions as was the custom for more than a century. This made possible, on equal terms, a Commonwealth mail match, which was shot, by teams of six, in July. Result: England 7,168 points, Canada 7,123. South Africa and New Zealand also competed. Individual top scores were: W. Frost (Canada) 1,428, R. E. Hunter (S. Africa) 1,367, H. A. Hooker (British champion, Portsmouth) 1,299.

The British ladies' national championship was won by B. Waterhouse (Birmingham). (C. B. E.)

ARCHITECTURE. Two ambitious building schemes completed in London during 1949 were blocks of flats at Finsbury and Holborn. The former, designed by the firm of Tecton, comprised three blocks, two of eight storeys containing 48 flats and one of five storeys containing 32 flats. The construction, of reinforced concrete, was based on the box-frame principle of continuous slabs and walls and utilized a new system of hydraulically jacked shuttering, never previously used in this country. The flats were the first in London to be provided with the Garchey system of refuse disposal. Each block was surrounded by a light coloured frame with tiled finish. Details of special interest

in the design were the balcony balustrades, partly solid and partly open, the "sculptured" entrance canopy and the polychromatic pram store, as well as the general siting of the buildings.

The Holborn scheme, designed by Robert Hening and Anthony Chitty, included five blocks of flats, one of ten storeys and the rest of five storeys, containing 162 flats in all. Construction was steel frame with hollow tile floors and reinforced concrete flank walls, staircases and cantilevered balconies. Cavity walls were used as panel infillings, the first time this had been permitted for high buildings in London. On the flank walls pre-cast concrete slabs, surfaced with broken brick, were used as permanent shuttering.

The site of the first health centre to be approved by the minister of health was officially opened in March. Designed for the Woodberry Down housing estate, Stoke Newington, by R. H. Matthew, architect to the London County council, the building would cost £187,000. Five units would be accommodated in the centre, consisting of medical and dental surgeries, school health, child welfare, ante-natal and remedial exercises and child guidance.

Among the most notable schools were those built by the Hertfordshire County council. During 1949 seven primary schools were completed in the county, at Letchworth, Hitchin, Hemel Hempstead, Oxhey, Bushey, and two at Croxley Green. They were all designed in the county architect's department, under the direction of C. H. Aslin, and employed a standardized system of construction which was intended for use throughout the whole schools' programme of the department. The system was continually being improved in the light of experience gained during construction. It was based on a light steel frame, designed as a series of component parts capable of mass production and easy assembly. The stanchions could be developed in four directions, the longer ones being able to receive beams from the shorter ones on any of their four sides, thus allowing variation in ceiling heights and far greater flexibility in planning. Pre-cast concrete blocks and fibrous plaster covered the frame. The use of colour and the design and placing of windows were carefully considered from the point of view of the child.

A secondary school at Stevenage, designed for the Hertfordshire County council by F. R. S. Yorke, E. Rosenberg and C. Mardall, was officially opened in May. Planned to accommodate 450 children, it included community centres for adults and youths and an assembly hall with stage, to seat 500 people, for the use both of the school and the general public. The construction was steel frame, with components welded into lattice members and galvanized, the framework being planned on a grid of 8 ft. 3 in Pre-cast concrete slab was used for constructional flooring and roofs, the roof slabs being covered with bituminous material on insulation boarding.

Britain's first permanent prefabricated aluminium school was opened during March. With accommodation for 480 pupils, it was built in approximately nine months, at a cost of 1*s.* 11*d.* a cu. ft. The system of prefabricated construction was developed by Richard Sheppard and G. Robson, consulting architects to the housing division of the British Aeroplane company. The planning of the school was under the supervision of J. Nelson Meredith, city architect of Bristol.

One of the largest building projects to be completed in Britain during 1949 was a group of buildings for the Bristol Aeroplane company at Filton near Bristol. These buildings included an aircraft assembly hall, together with a canteen, boiler house, workshops, storage buildings and a two-storey block of offices and workshops for B.O.A.C., costing in all £3 million. The assembly hall consisted of three bays, equal in span (358 ft. between main supports) but with the centre bay 420 ft. deep and the two side bays each 270 ft. deep. The structural steel framework spanning the bays was in the form of two-pin arched latticed ribs tied at the haunches and set at 50 ft. centres. Those for the outermost bays were 7 ft. wide and those for the centre bays 5 ft. wide. The roof was of steel decking covered with ½ in. insulating board and mineral-faced felt. All walls except the south were of 11 in. hollow brick up to 15 ft. Above, the external cladding was of asbestos cement sheets, insulated with fibre board.

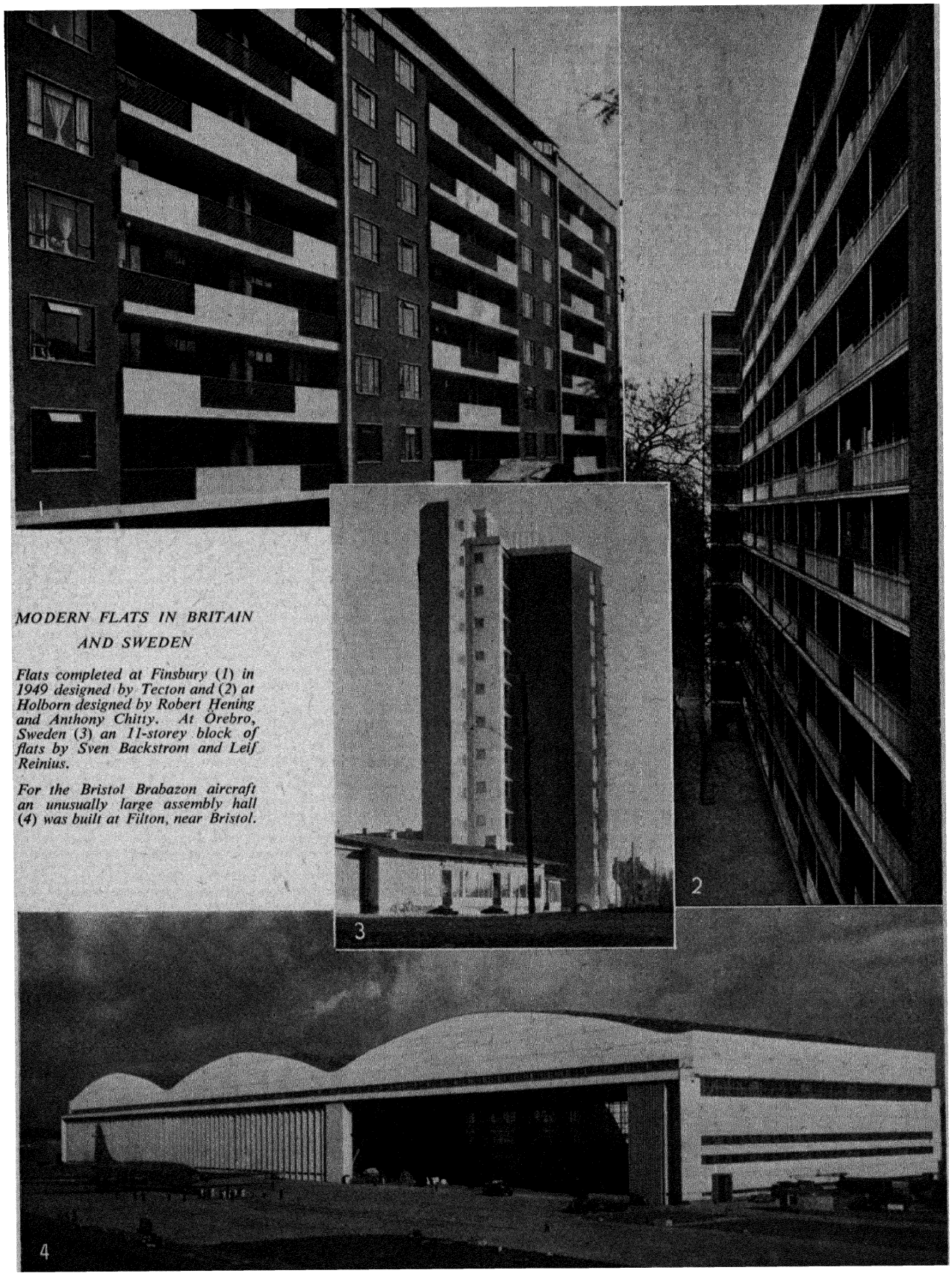
The eight acres of floor space were kept free of such things as buried pipes and heating panels, allowing the position of the jigs on which the aircraft were built up to be altered in accordance with changes in the production lay-out. The whole south side of the assembly hall was occupied by continuous sliding-folding doors, which were arranged in three pairs, opening either to the sides of the centre. The overall opening was 1,045 ft. long and 65 ft. 9 in. high and the aluminium doors, powered by electric motors, could be opened up in two minutes. The gable ends of the roof of the assembly hall, faced with corrugated asbestos, were painted pink, the aluminium doors green and the door canopy and surround white. The ancillary buildings were mostly faced with a reddish brown brick, in contrast to the colours of the assembly hall but with certain wall panels of white-painted asbestos sheeting to act as visual links with it.

The foundation stone of the London County council concert hall was laid on Oct. 12 by the prime minister, C. R. Attlee. The architects in charge were R. H. Matthew (architect to the council) and J. L. Martin, deputy architect. The site of the hall is on the south bank of the Thames between Hungerford bridge and Waterloo bridge. The building would consist of three main elements, the concert hall, the reception foyer and the small hall, with ancillary accommodation forming an envelope round the concert hall. Very careful attention was paid to sound transmission and acoustics. There would be total accommodation for 3,450 people in the main hall and 750 people in the small hall. A large part of the building would be constructed in reinforced concrete, which would be faced externally with Portland stone The work would be carried out in two sections, five-sixths by May 1951 and the remainder, following the close of the Festival of Britain, at the end of the year.

The plan of the 1951 exhibition to be held on the south bank of the Thames was released in Nov 1949. The various buildings were designed by a number of specially selected architects, and two of the exhibition structures were made the subject of competitions. The dominating buildings on the site would be the new L.C.C. concert hall (described above), and the saucer-shaped aluminium Dome of Discovery, 90 ft. high and 365 ft. in diameter.

Commonwealth. The results of the competition for the new provincial administration headquarters office building at Pietermaritzburg, Natal, were published. The winners were Corigall, Crickmay and Partners, and the assessors, J. Fassler, D S. Haddon and A. V. Nunn The competition was restricted to the architects of Natal and the competitors were required to limit the total cost of the building, including professional fees, to £250,000. The accommodation required comprised four main departments: a secretariat, with five sub-departments; a motor traffic bureau; offices for the provincial accountant and for the auditor, as well as plant rooms, garaging, native quarters, etc.

The Cranbrooke private hotel in Johannesburg, designed by H. le Roith and Partners, was among the most imaginatively conceived buildings completed in South Africa during the year. Accommodation comprised a basement car park and boiler room, ground floor public rooms, kitchen and staff quarters, six bedroom floors with 135 furnished rooms, and native servants' quarters at roof level. Externally the



MODERN FLATS IN BRITAIN AND SWEDEN

Flats completed at Finsbury (1) in 1949 designed by Tecton and (2) at Holborn designed by Robert Hening and Anthony Chitty. At Örebro, Sweden (3) an 11-storey block of flats by Sven Backstrom and Leif Reinius.

For the Bristol Brabazon aircraft an unusually large assembly hall (4) was built at Filton, near Bristol.

reinforced concrete structure was faced with plum coloured bricks, offset with white rendered panels and balcony trim. On the two main facades of the building the recessed bedroom balconies, with their screen and parapet walls, were used to provide repetitive rhythms, on the one simple and insistent, on the other subtle and modulated.

The results of the Anzac House competition were published. The winners were Walter Bunning and Charles Madden and the assessors, N. B. Freeman, L. A. Robb, Cobden Parkes, P. J. Gordon and J. E. Ancher. The winning design (for Sydney, Australia) was planned in two distinct parts, an auditorium with ancillary rooms and an office building, the two sections being independent with separate entrances. Auditorium accommodation was provided for 787 people. A memorial gallery would serve as an annexe to the foyer and as a ceremonial entrance on special occasions. In addition there would be a gymnasium, restaurant, creche, music rooms, board room and offices for ex-service organizations. The seventh to the twelfth floors would be rented office space, with a memorial garden on the roof. The proposed construction was a steel frame with reinforced concrete floors.

Europe. In Sweden an 11-storey block of flats was erected outside the town of Örebro, to the designs of Sven Backstrom and Leif Reinius. Built of reinforced concrete, the building was rendered in bright coloured cement.

In Czechoslovakia two office buildings were completed in Prague. One, by B. Kozak, had a reinforced concrete frame with brick panel infilling, faced with light-brown stone. The other, also of reinforced concrete with brick infilling, was rendered on the outside. The latter, designed by F. Marek, was the first large building in Czechoslovakia to employ the patent Swedish pivoting side-hung double window. On Oct. 6 at Marseilles, France, a flag was unfurled, in the presence of the architect Le Corbusier, on the roof of the new block of flats outside the city, for which the structural framework had been completed.

In Italy an office and flat building was erected in Milan to the designs of Luigi Figini and Gino Pollini. Sited in the garden of an old house, there were two main blocks. One of seven and the other of 11 floors, with offices on the lower floors and flats above. On the top floors of both blocks were penthouses with garden terraces which included bathing pools. The higher block onto the street had an entrance way opening through to the garden (a typical arrangement in the old mansions of Milan which had been superseded, in later years, by the closed entrance hall). This gave access to the lower block, which was at the back of the site. The structure was a reinforced concrete frame, faced with rough travertine and artificial stone In the larger block the frame stood free of the walls of the building flush with the outside edges of the balconies.

The seventh International Congress of Modern Architecture (C I A M., to use the better-known initials of the French translation) was held at Bergamo, Italy, from July 23-30. Six permanent commissions were set up and embarked on studies of the following subjects: town planning, interrelation of the plastic arts, education for architecture and town planning, industrialization of building construction, legislative procedure necessary to implement the Athens charter (a town-planning manifesto issued at the third congress in 1933) and the social programme of the C.I.A.M. The congress reflected fairly closely the currents of thought among architects of the modern movement, if such it could still be called. Though there was still close concern for the scientific and sociological responsibilities of contemporary architecture, there was evident at the congress an increasing concern for the more intangible aesthetic questions.

(I. R. M. M.)

United States. *Residential.* Early in 1949 there were signs that building costs might come down a little; but as the year wore on the decline proved to be very slight and there was instead a general acceptance of higher prices as the apparently normal level. As a result, the number of luxury buildings commissioned and sold increased, for the first time since the end of World War II. Houses of greater size and more lavishly equipped, costing roughly twice as much as similar ones before World War II, were being built. New flats on the Park avenues of the country were easily let at high prices, partly because none had been built for so long and higher rents were becoming accepted as the normal state of affairs. These units did not have a large number of rooms; the trend towards smaller residences reflected the gradual disappearance of domestic help. However, the rooms themselves were often large and the units contained many features intended to compensate for fewer square feet, such as glass walls, terraces and balconies.

In domestic architecture one-story, open-planned houses predominated. The " ranch house " was the name generally used for the looser, freer character of the more expensive of these buildings. It seemed as though public preference had in many instances swung from the Cape Cod cottage and colonial types of house to the ranch house without having stopped at the intermediate phase, the flat-roofed international style. Many of these ranch house units were deplorably lacking in restraint, in studied proportions and, as usual in this class of building, reproduced the clichés of the moment. This led to some alarm that the new mood was too relaxed and that the discipline of materials and design had been too suddenly jettisoned.

Since 60% of building in 1949 was in the residential field, it was significant that the new federal legislation was enacted to finance more public housing, about 200,000 units having been approved by the Public Housing administration by the end of the year. Congress, on the other hand, had not taken positive action to extend federal aid to housing in the medium-price range.

The two principal makers of prefabricated houses were searching for better ways in which to market their products. The small Gunnison house seemed to be founded on a sounder basis than the somewhat larger and more expensive Lustron house. The latter was not producing the expected volume of sales, its prices were higher than anticipated and it was losing money. There was, however, reason to think that Lustron would survive. It was inevitable that the first large-scale, factory-produced house would need time as well as capital to pioneer its way.

Techniques and Materials. Increasing labour costs, which were higher than ever before and the highest in the world, continued to force invention in techniques and materials. It should be noted, though, that in the United States the cost of building in 1949 as compared with 1939 had risen less than almost anywhere else in the world. British observers commented that the United States continued to lead the world in the use of building machinery, such as volume-mixers for concrete, thus offsetting some of the high costs of labour. Other steps in this direction were the increasing use of larger wall panels, new and lighter sandwiches for walls, insulated precast-slabs and wider application of pre-stressing and of lightweight structural metal members. Radiant heating continued to be a favourite system with wider application to driveways, terraces and pavements and, although it was recognized that the distribution of heat in this system was easily blocked by furniture such as desks and drafting tables, the advantages were on its side.

Aluminium was used as a substitute for conventional metals in the Alcoa building at Davenport, Iowa, in designs for a proposed Alcoa building in Pittsburgh, Pennsylvania,

and throughout an entire school in Bristol, England. It was suggested that the future of the material would develop more rapidly when its own characteristics were stressed. Stainless steel for exterior surfaces was used in several buildings and projected for others. Many experiments were made in the wider application of lightweight aggregates and lightweight combinations of natural and synthetic materials.

Commercial. Perhaps as a by-product of greater costs and a consequence of a longer period of familiarity with the modern approach to building design, the onset of a period of maturity in the design of commercial and industrial buildings could be detected. An outstanding example was the office building of the United Nations nearing completion in New York city Its characteristics, such as reserving part of the space for walks and parking, thus eliminating need for interior courts and complicated back premises and providing better light and air, were shared by other projects both under construction and in the design stage.

The highest distinction conferred by the American Institute of Architects, its gold medal, was awarded to the great U.S. architect, Frank Lloyd Wright. At the age of 80, he maintained his rôle as bête noire of conservatives; he suggested moving the capital of the United States to a more western point, and continued his output of original creative buildings, houses which could be partly built by the owner's own labour and a theatre which by its triple stage proposed to make use of the lessons of the cinema The influence of his ideas and of his buildings seemed to be growing as the austerity of the '30s and '40s was superseded by a warmer, sometimes excessively mannered mood (*See* also BUILDING AND CONSTRUCTION INDUSTRY; HOUSING; INTERIOR DECORATION; TOWN AND COUNTRY PLANNING) (C. L. V. M.)

AREAS AND POPULATIONS OF THE COUNTRIES OF THE WORLD. The political entities of the world are listed here with their areas, populations and number of persons per square mile. The latest census or official estimates are given for each country Areas in sq mi, including inland water areas, are in accordance with the boundaries for the year of the population figure unless otherwise noted

Name of Continent and State	*Area (in sq mi)*	*Population (in '000)*	*(per sq mi)*
WORLD TOTAL	58,087,756	2,341,154	44 9*
AFRICA	11,596,043	187,494	16 2
Belgian colony and trusteeship	925,094	14,748	—
‡British colonies, dependencies, protectorates and trusteeships	3,916,650	68,647	—
Egypt	386,110	19,528	51 0
Ethiopia	350,000	8,000	22·9
French overseas départements, territories, trusteeships and protectorates	4,258,070	49,301	—
Liberia	43,000	1,600	37 2
Portuguese colonies	794,959	11,502	—
South West Africa	317,725	369	1 2
Spanish colonies and protectorate	134,763	1,537	—
Tangier, International Zone of	232	150	646 6
Union of South Africa	472,550	12,112	25 6
ANTARCTICA	6,000,000	Uninhabited	
ASIA (exclusive of U S S R)	10,593,048	1,242,986	117 3
Afghanistan	270,000	12,000	44·4
Arabian desert	193,000	Largely uninhabited	
Bhutan	18 000	300	16 7
British colonies, dependencies etc.	248 861	9,993	—
Burma	261,749	17,000	64 9
Ceylon, Dominion of	25,332	7,288	291 6
China (including Formosa, Kwantung, Manchuria and Tibet)	3,876,956	463,493	119·6
French territories, etc	272,552	25,794	—
India, Dominion of	1,243,886	342,114	275 0
Iraq	168,040	4,794	28 5
Japan	146,690	82,466	562 2
Jordan, Hashimite Kingdom of	34,750	400	11·5
Korea	85,225	29,239	355 6
Kuwait	9,000	120	13·3
Lebanon	3,475	1,208	348·1
Mongolian People's Republic	580,158	850	1·5
Nepal	54,000	6,910	128·0
Netherlands Indies (Indonesia and New Guinea)	735,000	76,360	103·9
Oman and Masqat	65,000	830	12·8
Pakistan, Dominion of	337,524	73,321	203·1
Palestine (including Israel)	10,159	2,000	196·9
Persia	634,413	17,000	26·8
Philippines, Republic of the	115,600	19,234	166·4
Portuguese colonies	8,876	1,496	—
Qatar	4,000	25	4 0
Saudi Arabia	597,000	6,000	10·1
Syria	72,587	3,750	51·7
Thailand	198,272	17,666	89·1
Trucial sheikdoms	16,000	115	6·6
Turkey	296,184	19,750	66·7
Yemen	31,000	1,600	51·5
AUSTRALIA AND OCEANIA	3,304,620	11,697	3 5
Australia	2,974,581	7,581	2·5
Australian dependencies	183,557	1,216	—
British colonies, dependencies, etc	24,670	496	—
French colonies	9,199	106	—
New Zealand	103,416	1,888	18 3
New Zealand dependencies	1,652	94	—
United States possessions	7 545	704	—
†EUROPE (exclusive of U S S R)	1,908,096	385,390	202·0
Albania	10,629	1,175	110 5
Andorra	174	5	28·7
Austria	32,388	6,953	214 7
Belgium	11,783	8,603	730 7
British colonies and dependencies	124	330	—
Bulgaria	42,796	7,100	165 9
Czechoslovakia	49,330	12,409	251·6
Denmark (excluding Greenland, including Faeroe Islands)	17,109	4,220	246·7
Estonia	18,357	854	46·5
Finland (including Åland Islands)	130,165	3,958	30·4
France	212,737	41,800	195 7
Germany (1937 area, 1939 population)	181,677	69,317	381 4
Germany (1945 area, including the Saar, 1946 population)	138,069	65,910	477·6
Greece (including Dodecanese)	51,182	7,960	155 5
Hungary	35,893	9,165	255 3
Iceland	39,768	139	3·5
Ireland	26,601	3,023	116 2
Italy	116,235	46,110	397 5
Latvia	25,395	1,650	65 0
Liechtenstein	61	13	213·1
Lithuania	25,173	2,353	93 5
Luxembourg	1,010	292	289·1
Monaco	0 6	21	—
Netherlands	12,868	9,955	773 6
Norway	125,147	3,181	25·4
Norwegian territory (Svalbard)	24,295	2	—
Poland (pre-World War II)	150,052	35,339	235 6
Poland (1945 area)	120,359	23,781	198 2
Portugal (incl Azores and Madeira)	35,413	8,402	237·3
Rumania	91,671	15,873	173 2
San Marino	38	12	315 8
Spain (including Canary Islands)	194,945	28,154	144·3
Sweden	173,390	6,925	39 9
Switzerland	15,944	4,609	289·0
Trieste, Free Territory of	293	345	—
United Kingdom	93,667	50,213	536·1
Vatican City	0 5	1	—
Yugoslavia	98,826	15,752	159 4
U S S R (1939)	8,173,557	170,467	20·9
U S S R (1945 area, 1948 pop est)	8,436,121	193,000	22 9
NORTH AMERICA	9,387,294	214,824	22·9
British colonies and dependencies	21,172	2,690	—
Canada	3,843,144	13,636	3 5
Costa Rica	19,238	837	44 0
Cuba	44,217	5,295	119 8
Danish colony (Greenland)	840,000	21	—
Dominican Republic	19,129	2,277	119·8
El Salvador	13,176	2,100	159·4
French territory and departements	1,206	601	—
Guatemala	45,452	3,717	81·8
Haiti	10,748	3,500	325·6
Honduras	59,160	1,326	22 4
Mexico	767,168	24,447	31·9
Netherlands Antilles	403	160	397·0
Nicaragua	57,143	1,173	20·5
Panama (excluding Canal Zone)	28,575	764	26 7

United States	3,022,387	150,000	49·6
United States possessions	589,968	2,310	—
SOUTH AMERICA	6,862,534	105,763	15·4
Argentina	1,079,965	16,300	15·1
Bolivia	416,040	3,922	9·4
Brazil	3,286,170	49,350	15·0
British colonies and dependencies	97,161	392	—
Chile	286,323	5,709	19·9
Colombia	439,714	10,777	24·5
Ecuador	104,510	3,362	32·2
French département (French Guiana)	34,740	35	1·0
Netherlands territory (Surinam)	54,291	210	3·9
Paraguay	157,047	1,270	8·1
Peru	482,258	8,061	16·7
Uruguay	72,172	2,330	32·3
Venezuela	352,143	4,500	12·8

* In computing the world density the area of Antarctica is omitted.
† Includes as military trustee areas Libya, Eritrea and Italian Somaliland.
‡ Areas and populations of Baltic republics included in 1945 and 1948 U.S.S.R. totals.

ARGENTINA. The second largest South American republic, occupying the southeastern portion of the continent. Area (excluding the so-called "Zona Austral" which is supposed to comprise the "Malvinas" (*i.e.*, Falklands) and other islands or territory in the antarctic): 1,079,965 sq. mi. other islands or territory in the Antarctica): 1,079,965 sq. mi. Pop.: (1947 census) 16,108,573; (mid-1948 est.) 16,300,000. The population is overwhelmingly European in origin (mostly Spanish and Italian, with Irish, German, Croat and Polish admixtures); in 1940 about 9% were of mixed blood, the dwindling Indian population was estimated at 262,600 and the total of foreign-born population was 2,355,900. The distribution of the population is uneven: the federal capital and the four provinces of the littoral (La Plata, Corrientes, Paraná and Santa Fé) cover only one-fifth of the total area but have two-thirds of the country's population; urban population is estimated at 75%. Chief towns (pop. 1947 est.): Buenos Aires (*q.v.*) (capital and leading port, 3,000,371); Avellaneda, a Buenos Aires suburb (279,572); Rosario (464,688); Córdoba (351,644); La Plata (271,738); Lanús (242,760); Santa Fé (168,011); Tucumán (152,508). Language: Spanish. Religion: mainly Roman Catholic; Jewish 350,000. President of the republic, General Juan Domingo Perón (*q.v.*).

History. During 1949 there was a trend in Argentina toward a more authoritarian central government, denial of civil liberties and economic self-sufficiency.

Early in the year, at the Inter-American Economic conference held in Buenos Aires, there was some disagreement with the United States. The expected flow of dollars to be obtained through sales to European countries benefiting from the Marshall plan and the Economic Co-operation administration programme failed to materialize. The requirements of the five-year industrialization and development plan launched by Perón in 1946, requiring ever-increasing quantities of steel and machinery, and a reduction in foreign trade, as a result of high Argentine prices and large crops elsewhere, created additional economic difficulties.

Miguel Miranda, head of the National Economic council, who controlled the Institute for the Promotion of Trade (I.A.P.I. or Instituto Argentino de Promoción del Intercambio), continued to advocate a nationalistic economic policy of high prices, nationalization of foreign-held assets and self-sufficiency. His theories were mildly opposed by Orlando Maroglio, president of the Central bank, who advocated economic liberalization. This dispute prompted Perón to remove Maroglio and on Jan. 19 appoint Alfonso Gómez Morales as minister of finance and head of the Central bank. He also removed Miranda and appointed Roberto Antonio Arés as minister of national economy. For a few days Miranda's status seemed uncertain and he was reported



Eva Peron (right) wife of the president of Argentina, with the Spanish ambassador and Mrs de Areiliza, on board the Spanish training ship "Juan Sebastian Elcano" when it visited Buenos Aires in Oct. 1949.

to continue as financial adviser to the president. But on Jan. 26 his resignation was announced and he went to Montevideo, Uruguay. The reorganization of the National Economic council seemed to indicate a desire to correct mismanagement and inflation. Postage, telephone rates and taxes were increased, especially in Buenos Aires province.

These measures, however, did not bring about prompt relief. A report issued by the Institute of International Finance of New York university, *The Economic Situation in Argentina*, claimed that Argentine inability to use sterling and other non-convertible currency arising from its trade with Europe to cover its large deficit with the United States was responsible for most of its economic difficulties. The purchase of foreign-owned enterprises, nationalization of internal air lines, railways, telephones and merchant fleet, the reduction of the dollar debt and conversion to a government-controlled economy, were contributory factors to the economic crisis. The report added, however, that Argentine economy was basically sound.

Economic relations between Argentina and Great Britain were rather strained at the beginning of the year. Under the "Andes" agreement of Feb. 12, 1948, Argentina undertook to deliver to Great Britain 400,000 tons of meat in the year ending Feb. 1949. However, during the last four months of 1948 shipments fell short and when the year ended 108,000 tons of the carcase meat remained unshipped with the result that from March 27 the British weekly meat ration was reduced from 1s to 10*d.* worth. The Argentine government did not exert themselves to carry out the contract because of the alleged "low price" paid by Britain and because by keeping Britain in short supply it had strengthened its bargaining position in the negotiation of a new agreement.

The negotiations, which opened on Feb. 22, were conducted by Sir John Balfour, the British ambassador, and Señor Arés, the new minister of national economy. On June 27 a new five-year Anglo-Argentine trade agreement was signed, providing for exchanges totalling about £125 million each way in the first year and envisaging at least the same level in subsequent years. Sir Stafford Cripps stated in the House of Commons on July 5 that the average price of beef, mutton and lamb purchased under the new agreement was 28 7% above the price paid under the "Andes" agreement.

Basically, the new treaty was a barter arrangement whereby Argentina would receive machinery and manufactured goods and Great Britain would receive wheat, meat and linseed oil. The treaty constituted an attempt by Perón to overcome the dollar shortage. In the midst of the negotiations, the United States granted $28 million of E.C.A. funds to purchase Mexican and U.S. meat to be sent to Britain. This was regarded by Peronistas as unfair interference in their internal affairs. The United States, on the other hand, considered the treaty as a denial of multilateral trade principles.

The constitutional convention, made up of 109 Peronistas, 48 Radicals and one Labour member, met in Buenos Aires early in the year. The outstanding provisions of the new charter were: (1) it allowed the re-election of the president; (2) it incorporated Perón's rights of workers—whereby they were granted increased wages and seniority rights—and Eva Perón's rights of old age; (3) deputies and senators were to be elected together with the president every six years; (4) it incorporated article 40 which granted the government power to nationalize enterprises where mutual sale agreements were not reached; (5) foreigners could become citizens after residing in Argentina two years; after five years' residence they would have to become citizens unless they expressed a desire to the contrary. The constitution was approved on March 11, after the opposition had walked out charging steam roller tactics by the Peronistas, by a vote of 101 to nil.

Juan A. Bramuglia, minister of foreign affairs, who had acquired international renown for his work in the United Nations assembly, was removed on Aug. 11. It was reported he differed with Jerónimo Remorino, ambassador to Washington, over Argentine policy toward the United States. Bramuglia was reported to approve international co-operation and was regarded as the outstanding member of the cabinet and possible presidential candidate. Hipólito Jesús Paz, a 33-year-old law professor, succeeded Bramuglia.

In July the Peronistas held a convention, which urged Perón to run for re-election in 1952. Colonel Domingo R. Mercante, governor of Buenos Aires province and chairman of the Constitutional Convention, was mentioned for vice-president. The Peronistas also launched a purge of their party, and Waldino Suárez, governor of Santa Fé, and Pablo Diana, director general of immigration, were expelled from office Augustin Rodríguez Araya, who had charged the government with graft, and Atilio Cattáneo were expelled from the Chamber of Deputies and fled to Montevideo. To deny Cattáneo's charge that he had enriched himself in office, Perón, flanked by his cabinet, called a press conference where he produced an affidavit listing the property he owned before he took office. Later *La Prensa* and *La Nación* also repeated this charge, openly testing a law recently enacted that provided up to three years' imprisonment for anyone who "insulted" a public official.

Congress also passed a law providing that new political parties must wait three years while a federal court passed on their applications; parties already organized could be dissolved if their ideological principles endangered social peace; and coalitions of existing parties were banned. (J. McA.; X.)

Education. Schools elementary (1943) 14,565, pupils 2,016,330, teachers 79,081, secondary (1946) 1,145, pupils 221,409, teachers 28,360, universities (1943) 8, students 62,870

Agriculture. Main crops ('000 metric tons, 1948) wheat 4,700; barley 650, oats 640, rye 229, maize 5,000, potatoes 840; linseed 500, cotton ginned 92, rice 120 Livestock ('000 head): cattle (June 1947) 41,268, sheep (July 1948) 54,800, pigs (June 1948) 3,500, horses (June 1947) 7,238, asses and mules (June 1947) 501. Meat production ('000 metric tons, 1947): total 1,105·1, beef 867 3, mutton 190 9, pork 46 9 Wool production (on a greasy basis, 1948-49): 209,000 metric tons.

Industry. Persons employed in manufacturing industries (1947) 812,000 Fuel and power (1947) coal ('000 metric tons) 32 9, electricity ('000 million kwh) 3,346, crude oil ('000 metric tons) 3,113. Timber ('000 metric tons, 1947) 338. Manufactured goods ('000 metric tons, 1947). cotton yarn 65 9; rayon yarn 4 6; cement 1,364.

Foreign Trade. (Million pesos) Imports (1947) 5,354; (1948, six months) 3,030 Exports (1947) 5,328, (1948, six months) 3,152. No trade figures had been published since June 1948, but the minister of finance gave the net adverse balance of international payments as 1,866 million pesos in 1948 as compared with 1,028 million pesos in 1947. Main destinations of exports (1947). United Kingdom 26%, United States 10%, Italy 10%. Main sources of imports. United States 48%, United Kingdom 9%, Brazil 7%

Transport and Communications. Roads suitable for motor vehicles (1947)· 18,000 mi Licensed motor vehicles (Dec. 1948): cars 346,000 commercial vehicles 195,000. Railways: (1948) 26,568 mi.; passenger traffic (1947) 5,580 million passenger-mi.; freight traffic (1947) 9,370 million ton-mi. Air transport (1947) mi. flown 9,380,000, passengers flown 224,000, freight carried 2,540 metric tons, mail carried 16,644 tons. Telephones (per '000 inhabitants, 1947): 38. Wireless licences (per '000 inhabitants, 1946): 77.

Finance and Banking. (Million pesos) Budget (1949 est) revenue 3,860, expenditure 4,569; (1950 est.) revenue 4,870, expenditure 5,835. Budget of autonomous agencies (1950) balanced at 5,022 million pesos. National debt (Dec. 1948; in brackets Dec 1947) 12,940 (11,538). Currency circulation (July 1949; in brackets July 1948): 7,018 (5,201). Gold reserve (May 1949; in brackets May 1948) U S.$142 (214). Monetary unit is the *peso*. Before sterling devaluation on Sept. 18, 1949, the free market rate was 4·8 pesos to the $ or 19·37 pesos to the £. On Oct. 3, 1949, the Argentine Central bank announced a new free rate of 9 pesos to the $ or 25·20 pesos to the £.

ARMIES OF THE WORLD. The outstanding development during 1949 in the armies of the world was an increased standardization of arms into two basic types: Soviet and American. Regional agreements for military



The Swedish army held large-scale manoeuvres in Sept. 1949. Photograph shows troops going into action after landing on the coast near Nynäshamn, south of Stockholm.

assistance, the groundwork for which was laid in 1948, were generally established in 1949. The two most important alliances were the North Atlantic treaty (*q.v.*) and the Soviet bloc.

The year saw the North Atlantic alliance nations begin the formation of integrated programmes. Included in the over-all alliance were 12 nations: Belgium, Canada, Denmark, France, Iceland, Italy, Luxembourg, the Netherlands, Norway, Portugal, the United Kingdom and the United States. At a meeting of the defence committee of the alliance, composed of the defence ministers of the 12 member nations, agreement was reached on the over-all strategy, an armament production programme and the co-ordination of planning among the five regional groups. The five regional groups were set up as follows: North America, north Atlantic, northern Europe, western Europe and Mediterranean.

Certain important developments also took place in the Soviet bloc of powers. Most important was the defection of Yugoslavia, whose army could no longer be assumed to be part of the Soviet alliance. As far as the remaining powers in the U.S.S.R. orbit were concerned—Poland, Czechoslovakia, Hungary, Bulgaria and Rumania—the outstanding feature of 1949 was an increased sovietization. Indicative of the extent to which the U.S.S.R. would carry sovietization of the armies of its satellites was the situation in Poland, where Marshal Konstantin Rokossovsky, one of the outstanding Soviet commanders in World War II, was appointed head of the Polish armed forces.

The intensive rearmament, particularly of the western powers, which began in 1948, continued apace in 1949. However, economy measures in Britain, France and the United States indicated that the extent of the rearmament was to be definitely limited. The passage of the Military Aid programme by the U.S. congress assured the Atlantic treaty nations of certain assistance in modernizing their armies. Another outstanding development of 1949 saw the almost complete destruction of the Nationalist Chinese armies by the Communists.

The principal change in disposition of the armies of the world in 1949 was the beginning of the evacuation of Indonesia by the Netherlands. The return to the Netherlands of more than 100,000 troops from the Indies was one factor enabling the Netherlands to build up the ground forces required under the Western Union treaty. There was little change of disposition of the occupation forces in Europe, although continued replacement and relief of troops by the Soviet Union in eastern Europe gave rise to many reports and rumours of withdrawal. It would be safe to assume, however, that the Russians would not withdraw their occupation forces until replacement in the form of a reliable eastern German army should take place.

Postwar grouping complete, the three major powers were able to engage in training exercises involving up to the equivalent of a corps. France, as a result of heavy troop commitments in Indo-China, was hampered in effecting large-scale training exercises, except in its occupation zone of Germany.

While extensive research and development of new types of equipment continued, most equipment remained that which was in use at the end of World War II. Economy measures restricted re-equipping by the western powers, although it appeared that under the Military Aid programme certain new types of equipment, particularly late model tanks, would be made available.

United States. The year might well be marked by historians of the U.S. army as the peak of its postwar appropriations. With funds for the fiscal year 1949-50 lower than those for the previous year, the army began to curtail certain of its activities in 1949. Economy measures taken included closing of numerous army posts and concentrating cadres on fewer, large posts, reducing of the number of reserve officers on active duty and calling up of fewer men in the draft. Previous authorization to expand the army to more than 900,000 men was rescinded, and at the end of 1949 strength was at 670,000.

To the regular army strength should be added the national guard as reserve strength. After a year of intensive training, national guard units were in a far better position to bolster the regular force in the event of emergency. Army units of the national guard reached a strength of approximately 350,000 officers and men. Although this could not be considered as entirely effective combat strength, the national guard units had a large number of combat veterans.

Disposition of U.S. units remained approximately the same as in 1948 with the exception that the 11th Airborne division returned from Japan to Camp Campbell, Kentucky. Approximate strength of U.S. forces in 1949 was as follows:

Far east	127,000	Europe	97,000
Hawaii	7,000	Caribbean	14,000
Alaska	13,000	United States	411,000

Exercises were conducted on all scales during the year by

both regular and reserve units. Most of the reserve and national guard units conducted some form of divisional exercises during the year. All of the regular army divisions engaged in extensive unit re-training. The chief exercises conducted by the United States army during the year included: operation "Snowdrop" held in the U.S. zone of Germany in January, involving 16,000 men and designed to test the troops in winter warfare; the Vieques manoeuvres held in the Caribbean in February—an operation held with the navy and naval aviation—in which the 2nd Marine division and the 65th Infantry participated; exercise "Harvest" conducted in Germany in September, involving about 112,000 troops, in which the 18th Infantry was transported approximately 300 mi. by air. Manoeuvres held at Fort Benning, Georgia, stressed the two-bladed attack—infantry-artillery-tank teams advancing in conjunction with airborne assaults. In these exercises, units of the 11th and 82nd Airborne divisions were preceded into the drop zone by so-called "pathfinder teams" which guided the principal attack formation of transports and gliders to the target by radio beams.

There was continued development of new airborne equipment. In 1949 a new technique was successfully developed for dropping completely assembled 105 mm. howitzers. The 376th Air-borne Artillery battalion successfully dropped a battery of four howitzers with ammunition and 150 men during the exercises at Fort Benning.

Great Britain. The defence budget for the British army was cut by approximately 20% for the year 1948-49. The ground forces received 44% of a defence outlay of £692·6 million, or funds amounting to £305 million. British army strength in 1949 dropped to 400,000 men, of whom more than 175,000 were overseas. Difficulty was experienced in keeping the army up to strength through voluntary enlistments and there was considerable discussion in parliament about extending the period of conscription from 12 to 18 months.

At the beginning of the year defence critics pointed out that not a single organized division was in the United Kingdom. British army strength was spread throughout the world during 1949 with two divisions in Germany, one division and three scattered brigades in the middle east and the equivalent of almost two divisions throughout the far east.

Principal troop movements in 1949 saw the reinforcement of Hong Kong, bringing the strength of the garrison to approximately 25,000. Units sent there in 1949 included advance elements of the 40th Infantry division including the 28th Infantry brigade, the 3rd Royal Tank regiment plus the 3rd Royal Marine commando brigade. Troop commitments in Malaya remained heavy. At the end of the year elements of the Scots Guards and the Gurkha Rifles were withdrawn from the jungle for refitting and re-training. With the end of hostilities in Greece that particular drain on British manpower was ended and the 3,000 troops were withdrawn.

In addition to the defence exercises conducted in Hong Kong and the actual experience of combatting insurgents in Malaya, British training was concentrated in the army of the Rhine. Exercises in Germany stressed co-ordination of air, artillery, infantry and tanks. British officers also set about training an army of 3,000 in Ceylon. When trained the Ceylonese would take over the coastal and anti-aircraft defence duties.

U.S.S.R. Expenditures for the Soviet armed forces totalled 19% of the budget in 1949, compared with 17% in 1948. The Soviet Union continued to maintain approximately 2,500,000 men on active duty organized into 175 to 200 divisions. Inasmuch as Soviet divisional strength is 8,000 men, the U.S.S.R. had 1,600,000 first-line combat troops available for immediate action. Of the active divisions, 50 were armoured units, giving the Soviet army a powerful striking force. In addition to the active units the Soviet Union could mobilize sufficient reserves to field another 100 divisions within 60 to 90 days. Ultimate Soviet army strength could equal 500 combat divisions.

To Soviet army strength should be added that of the satellite armies consisting of about 40 to 60 divisions. Also, there were continued indications during the year that the long-heralded east German army was nearer to becoming a reality. Latest reports stated that a *Volksarmee* of 60,000 men was to be completely organized by March 1950. The army was to be composed of six motorized divisions equipped with tanks and artillery. The similarity of this force to the 100,000-man army of Germany under the treaty of Versailles was striking. Each man was to be qualified as a weapons instructor, thus immediately indentifying the army as a training cadre. The force was ultimately to consist of 360,000 men, with conscription of all men 18 to 30 reportedly scheduled to begin early in 1950.

The principal changes during 1949 in the disposition of the Soviet army units occurred as a result of the "cold war" between the U.S.S.R. and Yugoslavia. Three new Soviet divisions moved into Rumania and Hungary in August, giving the Soviet army between seven and nine divisions in these two countries. About half of the Soviet forces in these two countries was composed of tank units. In addition there was a combat division in the Soviet zone of Austria and another in Bulgaria. Although far from sufficient in strength to mount an attack, Soviet divisional moves kept the Yugoslav army constantly on the alert.

Soviet training showed an increasing reversion to the pomp, ceremony and caste of the Tsarist army. The Soviet army, for example, had three grades of marshal, adapted a modified version of the "goose step" for parade purposes and encouraged postwar units to identify themselves with famous wartime units. The development of a hereditary officer corps was taking place. Professional army personnel



The British army during 1949 introduced a new combat suit (right). On left is shown the new short greatcoat to be worn over the combat suit.

were provided with better quarters, could obtain better food and had their own commissariats. Separate messes were established for both officers and non-commissioned officers. Training started at an early age, cadet schools beginning at the age of 8. The distinction between officers and other ranks was more sharply emphasized, with iron discipline becoming the rule rather than the exception. Important Soviet training exercises were held in Germany. Among the largest were the autumn manoeuvres at Ohrdruf in which all of the garrisons of the Soviet zone—including the German people's police—participated Spring manoeuvres were held in Brandenburg

Marshal Alexandr M. Vasilevsky replaced Nikolai A. Bulganin as minister of the armed forces. For the first time since 1940 before the German invasion, the Soviet army was under the control of a professional soldier. Next to Gheorghy K. Zhukov, Marshal Vasilevsky was considered one of the Soviet army's most gifted strategists.

France. The French budget of national defence amounted in 1949 to Fr.350,000 million. This represented 28% of the total ordinary budget, compared with an expenditure of 30% in 1948 The maximum authorized strength of the army in 1949 was 493,000, although actual strength was closer to 470,000. One of the principal problems of the French army was to maintain the strength of the fighting formations with the short term of service. A bill to broaden conscription was presented to parliament but was not passed.

France was still heavily committed in Indo-China in 1949. The French forces, however, were unable to make substantial progress and were able to hold only the main cities and principal lines of communication. At the end of the year the French forces were patrolling the Indo-China-Chinese frontier to keep watch on the flow of the defeated troops of Chiang Kai-shek seeking refuge in Indo-China.

Over-all disposition of the French army in 1949 was: 150,000 troops in France; 60,000 in Germany and Austria; 91,000 in north Africa; 69,000 in other colonies; and 100,000 to 120,000 in Indo-China.

Training of the new French army was still restricted to exercises of divisional size and less as a result of overseas commitments. Recruits were called for one year, and most training concentrated on fundamentals. After the completion of 1 year's service, 16 years had to be served in the first reserve, followed by 8 years in the second reserve.

Professional army schools, having been re-organized and re-staffed to eliminate all traces of the army of 1940, began turning out regular officers and non-commissioned officers of high calibre. The École de Sous-Officiers at Strasbourg had an enrolment of 2,500 students, while the Military academy at Coetquidan had an enrolment of 1,200 future officers. Requirements for successful completion of both courses were rigorous and there was careful screening of all candidates. From Coëtquidan—the successor to Saint-Cyr—officers advanced to specialized training for their particular branch of the service at the Écoles d'Application.

Under René Pleven, minister of national defence, General Georges Rever was replaced as chief of staff by Major General Clément Blanc. Blanc was formerly chief of staff to General Jean de Lattre de Tassigny (*q.v.*) at Fontainebleau in the high command of the Western Union.

China. During 1949 the Nationalist forces were virtually destroyed by the Communists. Perhaps the outstanding factor in the Communist victory was not so much the ability of their own forces, but the complete disorganization of Nationalist armies. Defection and disorder contributed heavily to Chiang's defeat. The so-called people's army was in possession of the bulk of the U.S. equipment given to China under lend-lease and sold after the war as surplus. To this should be added all of the Japanese arms left in China in 1945 and a certain amount of Soviet equipment picked up in Manchuria. The most important question concerning the Chinese armed forces was whether Mao could hold together the army of more than 2 million men that had been assembled. Organized into a disciplined army, Mao's force could become the most powerful military instrument to emerge in Asia in modern time, with a potential strength exceeding 5 million.

Europe. *Albania.* Soviet officers were attempting in Albania to develop a force capable, at least, of guerrilla activity. Alarmed by defection of Yugoslavia from the Soviet orbit, the Soviet army appeared to be developing Albania as a shuttle base for a two-pronged attack on Tito, if necessary.

Czechoslovakia. Although the information could not be confirmed, there was some indication that the progress of sovietization of the Czech army was well advanced. Soviet General Chitinov was reported to be taking over the command of the Czech army.

Denmark. The Danish defence budget for 1949 was 10% larger than that of 1948. After discussion between the Danish high command and Great Britain, the decision was reached to leave the Danish brigade in Germany for another two years. August manoeuvres were held by the Jutland division.

Finland. Manoeuvres were held near Sappola with approximately 14,500 men participating, the largest held since World War II. Finnish army strength was being maintained by conscription for a nine-month period.

Greece. The heavy fighting ended in Greece in autumn 1949 The Communist rebels announced their withdrawal and survivors of the guerrilla army were reported in Bulgaria and Albania. Fewer than 2,500 rebels were believed left in Greece, with no bands larger than 200. The Greek army announced its intention of keeping units in the Grammos and Vitsi mountains throughout the winter of 1949-50 to prevent any new infiltration. At the end of the fighting there were 210,000 men in the army besides 50,000 gendarmes. Of these 68,000 were to be demobilized, although a new class of 18,000 conscripts would be called up.

Hungary. There were definite indications that the new Hungarian army—Soviet model—was nearing treaty strength of 70,000 men in 1949. Intensive military activity throughout the country characterized 1949. This included, in addition to the rebuilding of the army, the enlargement and expansion of certain key military airfields and the building of guided missile sites.

Italy. The strength of Italian forces was approximately 170,000 in 1949 organized into five divisions with three infantry regiments each and three divisions with two regiments each, one Alpine brigade and one armoured brigade. Plans called for bringing up the over-all strength of the Italian army from 8 to 12 divisions. The Giulia Alpine brigade of 5,000 men organized around one infantry regiment would be reinforced by two more Alpine brigades of comparable organization. Two new armoured brigades would be formed, modelled on the existing Ariete brigade. Both spring and autumn manoeuvres were held in 1949, the former involving the use of armour.

Netherlands. Out of a military budget of approximately £50 million in 1949, the Netherlands allocated £9·5 million for its contribution to the Western Union. Repatriation of the troops from the Netherlands Indies relieved certain of the problems in meeting Western Union commitments. During the early part of 1949 the only troops in the Netherlands were two battalions of combat troops as well as about 25,000 men in training. However, by the end of 1949 the bulk of the "Seventh of December" division was repatriated, and the 2nd division and Guards units were en route. The

bulk of the 85,000 troops in Indonesia were expected to be returned to the Netherlands or to be demobilized during 1950.

Norway. Regular army strength totalled 30,000 men in 1949, but a Home guard of 95,000 was being trained to support the regular force. Norwegian units held training manoeuvres in conjunction with Swedish army units.

Poland. Marshal Konstantin Rokossovsky became minister of national defence of Poland. Together with the granting of dual citizenship on a large scale to high ranking Soviet officers, so that they could serve in the Polish army, this assured the virtual integration of this force with that of the Soviet army. A majority of the high-ranking officers were Soviet. All equipment, tactical and strategic direction of the Polish army thereafter came from the U.S.S.R. The combat strength of the army in 1949 consisted of 16 divisions. (*See* POLAND).

Rumania. Poorly trained and indifferently equipped with cast-off Soviet equipment, the Rumanian army had approximately five effective combat divisions.

Sweden. Maintaining its forces at a high state of efficiency, Sweden organized a number of armoured brigades.

Yugoslavia. The budget for defence for the year totalled 16% of the national expenditures. This represented an increase of 12% over the previous year. The Yugoslav army was the strongest force in the Balkans, with 30 infantry and 2 armoured divisions. In addition 4 security divisions were used as border patrols, although armed only with light weapons. Training in Yugoslavia required 2 years compulsory military service. The largest manoeuvres since World War II were held in September, indicating to Moscow that Yugoslavia was not yielding to any further threat of force.

Commonwealth. *Australia.* The regular Australian army was composed of 16,000, with a reserve strength of approximately the same, and a cadet corps of 24,000. There was legislation to increase the regular army by 3,000 and the number of reserves by 26,000. Another bill was introduced to make the Australian regular army a permanent part of the defences. Officers were exchanged with other Commonwealth countries, and several were sent to Great Britain to study the latest developments in land-air warfare.

Canada. An intensification in the training of reserves was put into effect in 1949. Closer integration of the Canadian and U.S. armies was achieved with the use of the same communications systems, tactics and command channels. There was continued interchange of officers, and standardization of weapons was effected as far as possible.

India. The Indian army concentrated its efforts on the development of a sound system of military education and the creation of an adequate body of reserves. Construction began on the National War academy at Khadakvasla, near Poona. On completion in 1953, the Armed Forces academy at Dehra Dun would be transferred to the new location, where officers for all three services, army, navy and air, would be trained. The new National War academy, which was modelled on Sandhurst in England and the U.S. Military academy at West Point, would admit 500 cadets every year to take the four-year course. An intensive drive was conducted to recruit about 75,000 students for the National Cadet corps. At the end of the year slightly under 60,000 had enrolled. In addition a Territorial army of 130,000 was being organized to act as reserve for the regular Indian army. The Territorial army was to be similar in all respects to the regular force, except that its units would not be required to serve outside India in peacetime.

New Zealand. Conscription was adopted by referendum vote. Training would start at the age of 18, and approximately 2,800 men would be called up each year. In addition



Lieutenant General D. Dejpradiyudh, chief of the Thailand general staff during a visit to the School of Infantry, Warminster, Nov. 1949.

Territorial forces were being organized, including about 2,000 volunteer and non-commissioned officers.

Pakistan. With tension continuing between Pakistan and India, no cuts were made in the strength of the Pakistan army. The Quetta Staff college was expanded to handle the additional functions of the army.

Far East. *Burma.* British officers assisted the Burmese in the establishment of their own armed forces. The problem was complicated by a revolt of the Karens and sporadic insurrection throughout the country.

Indonesia. With the withdrawal of the Netherlands forces from Indonesia, a major problem in maintaining order remained for the Indonesian Republican army. This army, which was largely Japanese trained and armed, could mobilize 420,000 men; but it was disorganized and politically divided. General Sudirman had the problem of organizing a fighting force out of at least 20 different principal fighting units ranging in political belief from the extreme left to the fanatic Moslem right.

Korea. There was an outbreak of fighting in 1949 as the North Korean forces probed southward to test the strength of the southern forces. The 65,000 well equipped and trained men of the South Korean army were apparently too much for the Soviet-controlled forces of the north, which broke off action after a short time.

Philippines. With equipment promised by the U.S., the Philippines planned to increase the strength of the constabulary from 12,000 to 20,000, and the army from 17,000 to 25,000. The U.S. military mission continued to recommend the consolidation of the constabulary units with those of the army.

Thailand. Active steps were taken to organize the equivalent of five full-strength divisions. Strength in 1949 amounted to 40,000 police and 30,000 army troops. Five fully armed battalions guarded the Malayan border. Compulsory service of two years was required, and reserves were called up for three months' intensive training in anti-guerrilla tactics.

Middle East. An uneasy truce prevailed in the middle east. On the one hand, there were continuous but unsuccessful efforts on the part of the Arab league nations to agree on a plan for common defence. Political differences, the principal

factor in the Arab defeat of 1948, continued to keep the Arabs weak. On the other hand, Israel passed a compulsory service law and began the establishment of a regular army in which all men were required to serve. Provision was made for service in the reserves. (*See* also MUNITIONS OF WAR.)

(E. L. S.)

ART EXHIBITIONS. Cultural agreements were concluded between a number of nations during 1949; and as restrictions were dropped the interchange of exhibitions became progressively easier than at any time after 1939. The year 1949 was, indeed, referred to as London's *annus mirabilis*, on account of the great accumulation of masterpieces assembled there throughout the summer and autumn After their long continental tour the art treasures from Vienna arrived at the Tate gallery in May—paintings, tapestries, armour (of which an additional exhibition was held at the Tower of London), jewellery, gold and silver ware, ivories, cameos and crystals combined to form a sumptuous and dazzling display. They were narrowly preceded by 121 paintings from the Alte Pinakothek in Munich, which were simultaneously on view at the National gallery. Disappointment was felt at certain *lacunæ* in these exhibitions—in particular, perhaps, at the absence of most of the great paintings by Pieter Brueghel the elder for which Vienna is famed—but remarkable concentrations of work by certain masters resulted. Together with those in the National gallery's own collection, there were, for example, more than 50 important Rubens on view in London. Velasquez was seen to advantage in both exhibitions; Titian and Tintoretto more especially at the Tate. Attendances at these two rich displays together totalled well over 500,000.

In the autumn a depleted version of the collection of work by Gerard David and his followers, which had been seen earlier in the year at Bruges, was shown by the Arts Council at Messrs. Wildenstein's gallery. In December the winter exhibition at Burlington house devoted to "Landscape in French Art" was opened, composed mainly of oils but including also drawings, engravings and tapestries. The exhibits, ranging in date from the 15th to the 19th century, were drawn in about equal proportions from France and Great Britain and included many little-known works from private and provincial collections. From Germany came Watteau's "Embarkation for Cythera." The exhibition was chiefly notable, however, for the display of landscapes by Claude and Nicholas Poussin, the finest perhaps that has ever been assembled.

At its own headquarters gallery the Arts Council showed a fifth collection of work from overseas—an exhibition of German graphic art of the last 50 years, which was initiated by the Institute of Contemporary Arts. This gave London its most comprehensive view of German expressionism since before 1939. All these importations served to draw attention once again to the postwar pressure on exhibiting space in London, and the decision to re-open the New Burlington galleries under the direction of the Arts Council as a centre for temporary exhibitions was greeted in November with satisfaction.

The year saw no major changes in any of the national collections. At the British museum the Elgin Marbles were returned from their wartime fastnesses and the museum received Campbell Dodgson's gift of more than 5,000 prints and drawings. Three important works—a Titian, a possible Giorgione and Leonardo da Vinci's "Virgin of the Rocks"—were newly cleaned at the National gallery. The Tate gallery showed an exhibition of work by Richard Wilson (organized the previous year in Birmingham) and a memorial exhibition of paintings by James Pryde (seen earlier in Scotland). The unevenness of the latter—it was only the third large showing of his work ever to be arranged—suggested that Pryde's most lasting claim to fame was his collaboration with William Nicholson at the end of the last century as one of the poster-designing "Beggarstaff Brothers." The Victoria and Albert museum organized two admirable exhibitions of applied art. The first consisted of half a century of London Transport posters—those daring and stimulating designs which would always be associated with the name of Frank Pick. The second comprised the first international exhibition of the art of the book jacket, with examples culled from 19 countries. Reference may perhaps here be made to another exhibition of drawings for reproduction, that of historical and contemporary humorous art organized by the Royal Society of Arts.

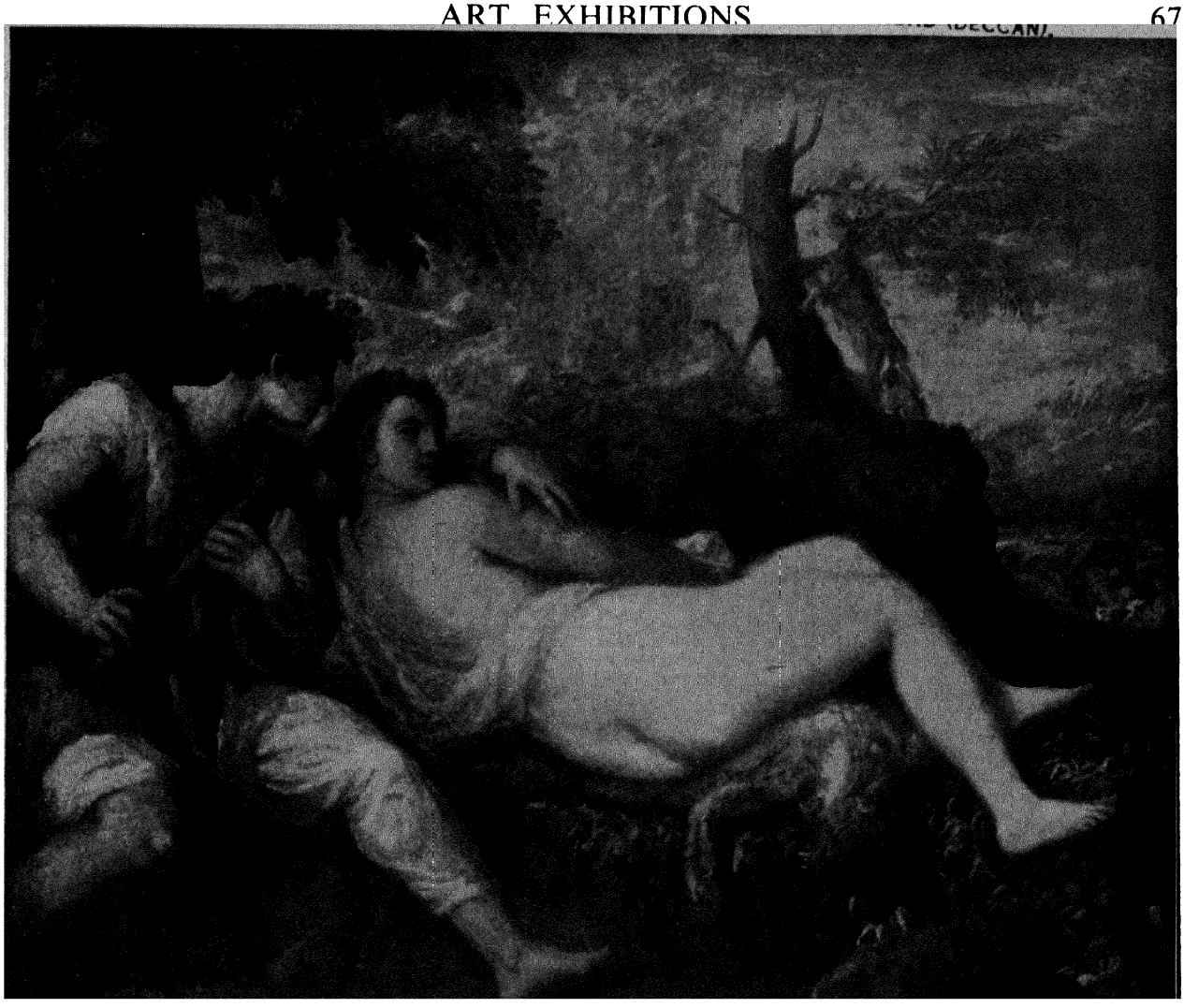
In February Walter Hutchinson opened his so-called National Gallery of British Sports and Pastimes at the fine 18th century mansion in London that used to be known as Derby house. The collection, which was extensive, was seen to contain many works of curious interest and not a few—more particularly the examples of George Stubbs's work and Constable's "Stratford Mill"—of real artistic worth.

The *Sunday Pictorial's* second annual show of children's drawings and paintings, at the Royal Institute galleries, was selected in 1949 from nearly 47,000 entries submitted from all parts of the country. The Society for Education in Art held in 1949 its third "Pictures for Schools" exhibition, at the Whitechapel Art gallery Here too, very fittingly, was seen the memorial exhibition of work by Mark Gertler in the spring. Often derivative and certainly uneven, Gertler's talent was felt by some to have been too lightly dismissed in the past.

Early in 1949 the ancient dispute between the Tate gallery and the Royal Academy over the purchasing machinery of the Chantrey bequest was brought into the open once again when the entire Chantrey collection to date was exhibited at Burlington house. This was a fascinating reminder of the tastes of an era when British painting was at a low ebb and was visited, probably in a nostalgic frame of mind, by nearly 100,000 people It did, however, add weight to the contention that too great bias had been shown towards the academic purchase; and later it was announced that the Tate gallery (which received the purchases) had been given equal representation on the selection committee with the Royal Academy (which made the purchases). In the autumn Burlington house showed Leslie Wright's ambitious collection of 18th and 19th century watercolours, a project which gave considerable pleasure.

Between these two exhibitions the Royal Academy held its usual summer show. This was remarkable, apart from the presidential broadcast from the pre-exhibition dinner, chiefly for the inclusion of a gallery devoted to more "modern" work in which John Minton's large decorative landscape held a dominating position. The academic idiom was seen at its most incisive in the works of Pietro Annigoni, two portraits by whom later attracted attention at the Royal Society of Portrait Painters. By far the most enterprising of the other exhibiting societies was the Royal Society of British Artists, which gave hospitality to a lively show by London art students, to recent work by Giorgio de Chirico and, in the winter, to the most exciting collection of contemporary sculpture since Battersea Park in 1948.

In the provinces some collections, like the Ashmolean at Oxford, completed schemes of postwar re-arrangement. In Glasgow, a selection from the rich Burrell collection, which was presented to the city in 1944, was seen publicly for the first time. Municipal galleries showed varying degrees of initiative, some contenting themselves with accepting Arts Council travelling exhibitions (which included, during 1949, shows devoted to Joshua Reynolds, Indian miniatures,



" Nymph and Shepherd " by Titian, from the exhibition of art treasures from Vienna which was held at the Tate Gallery, London, during 1949.

women artists from the Netherlands, pictures from the Wellington gift, Sickert, Gainsborough, Gordon Craig and old master drawings from Chatsworth; York, on the other hand, organized a centenary exhibition of William Etty and Wakefield, the town nearest to his birthplace, sponsored an impressive retrospective exhibition of work by Henry Moore which later, with some additions, toured Europe under the auspices of the British Council.

Among the more memorable offerings of the commercial galleries in London were exhibitions by Michael Ayrton, Francis Bacon, Edward Bawden, Edward Burra, Prunella Clough, Robert Colquhoun, John Craxton, Ivon Hitchens, Frances Hodgkins, Wyndham Lewis, Robert MacBryde, John Minton, Victor Pasmore and F. E. McWilliam. Perhaps the most noticeable thing about the dealers' galleries, however, was the range of foreign work shown as a result of the easing of import restrictions. Apart from those already mentioned, Eugene Berman, Massimo Campigli, Edouard Goerg, Hans Hartung, Charles Howard, Jean Lurçat, Pablo Picasso and Pavel Tchelitchew were among those seen. Many other younger French painters were shown, and pictures by German, Turkish, and Indian artists. There was a display of Polish folk art, and at least three exhibitions of the traditional art of British colonies were arranged in connection with " Colonial Month," that organized by the Royal Anthropological society including some entirely realistic and hitherto unknown heads from Ife, Nigeria.

British masters were seen overseas in Lisbon, Madrid, Hamburg and Oslo; contemporary painting in Paris, Germany, Holland, Luxembourg, the U.S.A. and throughout Australia; work by Paul Nash toured Canada; drawings and prints went to Australia, Canada, New Zealand, Austria, France, Germany, Indonesia; sculpture was included in the international open-air exhibition at Sonsbeek in Holland, and the important Henry Moore exhibition already referred to was seen in Brussels and Paris, where it aroused the greatest interest.

From the many displays in Europe arranged during 1949 mention may be made of the 200 paintings of " Rembrandt and his time," at Schaffhausen; of the opening to the public of the Thyssen collection at Lugano; of the belated centenary exhibition of Paul Gauguin in Paris; and the assembly in Venice of over 100 painting and drawings by Giovanni Bellini from all over western Europe and America. As an augury for the future, note should perhaps be taken of the first travelling exhibition of fine reproductions organized and circulated by U.N.E.S.C.O. (M. H. MN.)

United States. The State University of Iowa, Iowa city, devoted its fifth annual summer show entirely to sculpture. Sculpture also had a prominent showing during the summer

at the Third Fairmount Park Sculpture International in the rotunda and in the garden court of the Philadelphia museum. The object of the exhibition was to be a basis of selection for sculptors to create the remaining historical groups of the Ellen Phillips Samuel memorial in Fairmount park. Foreign artists represented numbered 32, compared with 216 from the United States. The Philadelphia museum also exhibited the Henry P. McIlhenny collection, containing the finest pictures of the 19th century and contemporary period. Among these were Jacques Louis David's " Pius VII and Cardinal Caprara"; Ingres' "Countess of Tournon"; Renoir's " Mlle. Legrande "; Cézanne's " Mme. Cézanne "; and Picasso's " Pitcher and Bowl of Fruit."

The Museum of Modern Art in New York had a full-scale retrospective one-man show of Georges Braque (in collaboration with the Cleveland museum) covering work from 1904 to 1947. It also held a survey of 20th century Italian art. Beginning with early experiments in sustained motion by the Futurists, Boccioni and Balla, the exhibition then showed an impressive group of early works by De Chirico and came down to the present with emphasis on the sculpture of Marini and various abstract painters. San Francisco's California Palace of the Legion of Honour celebrated its 25th anniversary with an exhibition of 32 paintings and 24 drawings of the French 18th century lent by the Louvre and several French provincial museums Seven Watteau's, including " Le Faux Pas " lent by the Louvre, and Chardin's famous " Le Jeune Homme au Violon," also from the Louvre, were exhibited.

The Italian government made two good-will gestures of gratitude in return for the help given by the United States in the restoration of Italian monuments. Michelangelo's " David " (from the Bargello in Florence) was lent to the National gallery and Donatello's San Lodovico (1423), which had been cleaned to reveal the full splendour of the original gilt bronze, was sent from the church of Sante Croce in Florence to the Metropolitan museum, the Art Institute of Chicago and a few other American museums.

American art of the earlier periods was prominent in the year's exhibition calendar. Washington's Corcoran gallery under the title " De Gustibus " showed 100 years of American taste from Thomas Cole to the present. In the meantime the Wadsworth atheneum in Hartford, Connecticut, in collaboration with the Whitney Museum of American Art, New York, arranged a large exhibition of the work of Thomas Cole (1801-48)

The Art Institute of Chicago put on a comprehensive showing of American paintings, silver and blown-up architectural photographs under the title " From Colony to Nation " covering the period 1650-1815.

Leonardo da Vinci and his contemporaries were shown in an exhibition at the Los Angeles County museum A feature was the " Madonna of the Pomegranate," thought to be his earliest painting, and nine of his drawings. Of great interest were the reconstructions of several of Leonardo's designs for mechanical contrivances, including a flying machine.

The Louise and Walter Arensberg collection of 20th-century art was permitted to leave their home in Hollywood, California, for the first time and was featured at the Art Institute of Chicago. More than 200 paintings, water colours and pieces of sculpture made up the group which marked the foundation of the art of this century. Sculpture by Brancusi, early paintings by Braque, Picasso and Marcel Duchamp (including all four versions of the " Nude Descending a Staircase ") and works by Joan Miro, Paul Klee and Salvador Dali were notable in the collection.

The Metropolitan museum opened the autumn season with a great exhibition of the work of Vincent Van Gogh (organized in co-operation with the Art Institute of Chicago), consisting of 97 oils and 67 drawings lent for the most part from two Dutch sources, the Kröller-Muller museum in Otterlo, Netherlands, and the collection of the artist's nephew and namesake, Vincent Van Gogh. The value of the collection was reputed to be $3 million.

Art treasures from the Vienna collections was another great European exhibition which crossed the Atlantic; it opened at the National gallery in Washington, D.C., in November. (*See* also ART SALES; ARTS COUNCIL; DRAWING AND ENGRAVING; PAINTING; SCULPTURE.) (F. A. SW.)

ARTHRITIS. During 1949 all advances in the field of rheumatic diseases were overshadowed by the contributions of P. S. Hench, E. C. Kendall, C. H. Slocumb and H. F. Polley who demonstrated the effects on rheumatoid arthritis of 17-hydroxy-11-dehydrocorticosterone (Kendall's Compound E, later renamed " Cortisone ").

While investigating the mechanism whereby remissions of rheumatoid arthritis occur during pregnancy and certain diseases complicated by jaundice, Hench and his co-workers found it probable that the factor responsible for the relief of arthritis might be a hormone liberated by one of the endocrine glands other than the sex glands. Trials of various hormones available prior to 1948 had failed. Kendall had isolated various fractions of the secretion of the adrenal cortex, one of which was called Compound E. The quantity of isolated material was inadequate to allow studies of the effect of this adrenal cortical fraction on arthritis For many years, Kendall and his associates and biochemists in other laboratories had been collaborating to synthesize this compound. Finally in 1948 enought of this material was produced (starting from one of the acids in ox bile) to allow a study of its effects on patients to be made. During the winter of 1948-49 at the Mayo clinic, Rochester, Minnesota, the effects of Compound E were carefully observed in several patients with rheumatoid arthritis. All the patients made remarkable improvements. Stiffness quickly lessened, movement of the joints increased, pain, swelling and tenderness of the inflamed joints were reduced or disappeared in a period of only a few weeks, and there was a gratifying improvement in the general health of the patient. Report of these investigations was made in the spring of 1949. Throughout the remainder of the year Compound E was made available to other investigators, all of whom confirmed the reports of Hench and his collaborators.

Cortisone was given by injection daily to accomplish remission or near-remission of the disease. When it was discontinued, after a short period of administration, the arthritis usually relapsed, although some patients maintained a portion of the improvement. In some persons receiving the drug for longer periods, various undesirable side effects were noted—all of which disappeared after administration of the hormone were discontinued.

A fraction of the hormone complex produced by the pituitary gland stimulated the adrenal glands to liberate an increased amount of cortical hormones including Cortisone. This pituitary secretion, known as " adrenocorticotropic hormone " (ACTH) was isolated in a potent and purified form suitable for injection into humans, and when administered to patients with rheumatoid arthritis effects were observed similar to those resulting from Cortisone.

The effects of Cortisone and ACTH were studied in other rheumatic disorders and connective tissue diseases. Some improvement was observed in rheumatic fever, gout, diffuse lupus erythematosus, neurodermatomyositis and other collagen diseases.

The extreme difficulty of isolating ACTH and the tedious and difficult task of synthesizing Cortisone and the limited

supply of ox-bile acid severely restricted the production of these hormones. Consequently these substances were important in 1949, chiefly as research tools in the study of rheumatic diseases. The whole problem of connective tissue and rheumatic diseases took on a new aspect. The mystery surrounding rheumatism could now be clarified so that an amelioration of these painful diseases might be effected. Much research however lay ahead: research to improve the methods of manufacture so that larger supplies of these hormones could be produced at a lower cost; the definition of the scope and limitations of effects of the hormones in different diseases; methods of administration to produce the greatest benefit and the minimum, or the absence, of undesired effects; the elucidation of the mechanism of effect of these hormones which in time should reveal the nature and possibly the cause of the diseases; the study of the effects of steroids chemically similar to Cortisone; and the influence of all effective steroids on the entire endocrine glandular system and metabolic functions. (*See* also CHEMISTRY.)

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ART SALES. Prices tended to remain high during 1949 as a counterbalance to currency fluctuations and in Great Britain a proposed Rembrandt exhibition was unable to be held because devaluation of sterling made the insurance costs prohibitive.

There were two moments of high drama during the year. The first occurred at Sotheby's on Feb. 16 when a Rubens "Suicide of Dido" came up for sale. Its owner offered it to Reading Art Gallery but the authorities refused the gift and it was afterwards auctioned at Henley-on-Thames, Oxfordshire, for 50*s*. At Sotheby's it was bought for £3,200. The second happened at Christies' in June when the Graham Robertson collection of *Works by William Blake* came up for sale. Graham Robertson had bought the famous "Ghost of a Flea," now in the Tate gallery, for £12 and had also acquired the collection of Thomas Butts, one of Blake's patrons. He had made many gifts to public galleries and it was expected that he would have made certain bequests in his will. This did not, however, seem to be the case, and the items were auctioned in the usual way. The National Gallery of Scotland bid 7,400 guineas for "Job Confessing His Presumption"; the Tate gallery 8,600 guineas for three fine examples of William Blake; and the British museum 6,000 guineas for "Jacob's Ladder" and "The Sacrifice of Jephthah's Daughters." The Fitzwilliam museum became the owner of "The Ascension" for 7,000 guineas. The sale realized £61,600. At its conclusion it was announced that, according to the terms of the will, works acquired by public galleries would be presented to them through the National Art Collections' fund, representing a bequest of £41,181.

Public art galleries were fortunate in 1949. The Fitzwilliam acquired Constable's "Hampstead Heath" (from the Eckstein collection) for £13,000; the Barber institute at Birmingham bought The Butleigh Salt (17th century, silver gilt) for £4,400 and a sheet of Rembrandt drawings in pen and bistre for £4,410. At the same sale a Rowlandson drawing, "The Accusation," went for £25 5*s*. On the other hand, at Sotheby's in July, a Constable of "The Marine Pier at Brighton" was withdrawn at £13,500. The most interesting of several acquisitions made by W. V. Hutchinson for the National Gallery of British Sports and Pastimes was a series of eight Henry Alkens of "The Grand Leicestershire Steeplechase, 1829," for which he paid £1,995.

The most impressive series of sales, which had begun in 1948, was of various works of art acquired by the late Sir Bernard Eckstein Apart from the Constable, which went to the Fitzwilliam, the most noteworthy examples of painting from the collection were Morland's "Children Birdnesting" and "Juvenile Navigators," for which W. V. Hutchinson gave £10,200 and a Fantin Latour flower-piece which sold for £4,200, as against £819 in 1933. The only notable depreciation was a Gainsborough, "Woodland Scene," which went for £1,800 as against £3,150 in 1937.

Amongst other sections of the Eckstein collection £1,050 was given for a Persian manuscript of the longest poem in the world (120,000 lines): "The Book of Kings"; an easter egg in rock crystal made by Fabergé and set with rose diamonds brought £1,700; a panel of Beauvais tapestry, after a Boucher design, sold for £2,400 and a Tompion travelling clock (9½ in. high) in its original case sold for £2,300.

Contemporary artists commanded a fair market throughout the year. A Raoul Dufy "View of Langres" sold at £350; and £680 was given for two Richard Sickert views of Dieppe and £370 for two Augustus John portraits of his sons, Edwin and Caspar. A painting by Winston Churchill realized £1,312 10*s*. at Christies' in aid of the Y.W.C.A.

Provincial sales were vigorous, although their contents were not up to the standard of the London sale-rooms. One interesting event was the sale in July of a work by Rubens and Snyders for £2,900 at Kimbolton castle. (B. DR.)

Sotheby sold the H. A. C. Gregory collection of Constable paintings and drawings at £28,467, top item of which was an oil, the "Marine Parade" at £13,500. This was shown in the Masterpieces of English Painting at the Art Institute of Chicago in 1946.

Christie's held several important sales during the season including 139 lots of antique gold and silver sold for the earl of Strathmore at a total of £15,704. The rarest item was a Charles II gold porringer (1675) which sold for £4,200. Christie's auctioned the collection of Mrs. Arthur James in which a notable Guardi, "Entrance into the Grand Canal," went for £10,290.

United States. Kende galleries announced a 1948-49 season totalling more than $1 million, their largest single sale having been to the Cortlandt F. F. Bishop library which brought $325,900; an *Aesop* in maioli binding went for $24,000; a Paris *Tasso* (1771) with 68 original Gravelot drawings went for $23,500; and a Molière (1734) for $20,250.

In the Oscar Bondy sale Dosso Dossi's "The Combat between Roland and Rodomonte" went at $12,000 and Giovanni di Paolo's "Adoration of the Magi" for $11,000.

Parke-Bernet galleries of New York city, the leading art auction house of the country, reported that their season amounted to $5,618,628·50, which was a $400,000 increase over the previous year. The highest price paid for a single item was $54,000 for Lincoln's "Gettysburg Address" and the largest individual sale was comprised mostly of early Christian and Byzantine art from the estate of Joseph Brummer and totalled $739,510. The top item in this sale was a pair of Burgundian Gothic tapestries at $42,000. A Saxon 12th-century champlevé plaque brought $11,000.

Leading prices at sales of paintings were $25,000 for Degas' "L'Ecole de Ballet"; $12,000 for Winslow Homer's water colour "The Voice from the Cliffs"; $10,500 for Renoir's "Young Bather"; $7,000 for Frederic Remington's "Among the Led Horses"; and $6,500 for Grant Wood's "Birthplace of Herbert Hoover."

The sale of the Joseph H. Seaman prints brought $90,067. Of these, Rembrandt's "Christ Healing the Sick," went for $7,500, "The Young Haaring" for $3,200, "Ephraim

Bonus " for $3,000, and " Clement de Jonghe " for $2,600.

Many books came up at auction including a first edition of Dante's *Divine Comedy* at $9,000 and a Caxton edition (1478) of Chaucer's *Canterbury Tales* at $4,000 (*See* also ART EXHIBITIONS.) (F. A. Sw.)

ARTS COUNCIL. For the Arts Council the year 1949 was one of consolidation rather than expansion. The council's grant-in-aid from the exchequer for the financial year 1949-50 was the same as in 1948-49, viz., £575,000 Assistance was again given on much the same scale as in previous years to theatre, opera and ballet companies, to orchestras and to arts clubs, arts centres and chamber music clubs throughout Great Britain The largest grant was to the Covent Garden Opera trust, for building up a national opera and ballet at Covent Garden on a scale and of a standard worthy of the country's achievements in other fields. The smallest grants were those to individual arts clubs for purchase of equipment or as guarantees against loss on concerts and other events.

Apart from the continuation and consolidation of the programme already laid down, the Arts Council was concerned in 1949 with encouraging two special developments. The first of these was the new interest in artistic enterprise made possible for municipalities under the Local Government act, 1948. The council was naturally anxious to co-operate with local authorities in the development of plans to implement these powers and the local authorities, on their side, presented many new and varied schemes for the council's consideration, assistance and advice. Examples of the kind of co-operation made possible with the joint assistance of the municipality and the Arts Council were the arts centres established at Dudley in Worcestershire and Leek in Derbyshire; the Civic theatre founded at Chesterfield; the Playhouse at Nottingham; and the theatre company installed at the Grand theatre, Swansea. In all these instances the council sought to show how an independent venture, receiving the support of the citizens, might be encouraged by the assistance of public funds, both from the rates through the local authority and from the exchequer through the Arts Council. The second particular interest of the Arts Council in 1949 was in preparations for the Festival of Britain, 1951. When the festival was first announced in the House of Commons in Dec. 1947, the council was charged by the chancellor of the exchequer with the responsibility of organizing the Festival of the Arts as part of the national celebrations. The year saw the successful progress of a number of local festivals in which the council collaborated with local authorities, the supreme example of this being the International Festival of Music and Drama at Edinburgh.

It was the continuing policy of the Arts Council to assist independent ventures with grants, loans and guarantees against loss, rather than itself to organize and present entertainment. The council did, however, sponsor certain directly provided concerts and theatrical tours, and it was also the agency for several art exhibitions in London and the provinces. The loan of the pictures from the Alte Pinakothek at Munich and of the art treasures from Vienna, arranged by the council, made the summer of 1949 a period of special interest to Londoners. On Nov. 9 the council re-opened the newly decorated and lighted New Burlington galleries in London with an exhibition of modern British art. (*See* also ART EXHIBITIONS.) (M. C. G.)

ARUBA: *see* NETHERLANDS OVERSEAS TERRITORIES.

ASCENSION ISLAND: *see* SAINT HELENA.

ASSASSINATIONS. Assassinations, actual or attempted, during 1949 included the following:

Feb. 4. Tehran, Persia. The Shah was shot at and slightly wounded by a member of the Tudeh party, Fakhr Rai, who after the attempt was attacked by the crowd and died the following day.

Feb. 12. Cairo, Egypt. Sheikh Hassan el-Banna, leader of the Moslem brotherhood, was shot and fatally wounded.

April 28 Luzon, Philippines. Mme. Manuel Quezon, widow of president Quezon who died on Aug 1, 1944, and nine persons with her were ambushed and killed by bandits while driving through hill country in Neuva Ejica.

May 25. Detroit, United States. Victor Reuther, educational director of the United Automobile Workers' union, was shot in the face and neck and severely wounded at his home. His brother Walter was similarly attacked on April 20, 1948.

June 26. Seoul, Korea. Kim Koo, a politician and opponent of President Syngman Rhee, was assassinated by an army lieutenant, An Du Hi, who was sentenced to death by a military court on Aug. 6

July 6. Tokyo, Japan. Mr Shimoyama, president of the National Railway association, was found dead, believed to have been murdered, on the railway track near Tokyo

July 18. Guatemala City, Guatemala. Colonel Francisco Arana, chief of the armed forces, was assassinated; and a revolt against the government was started but failed.

Aug. 30. Nawnpalang, Burma. The Sawbwa of Nawngpalang state, Sao Tin Hla, was murdered by Karen rebels in front of his palace and Sao Tun Sein, Sawbwa of Pwehla, was wounded.

Sept. 19. Hong Kong. General Yang Chich, former Chinese ambassador to Moscow, was shot and killed by gunmen, believed to have been Kuomintang agents.

Nov. 3. Quito, Ecuador An attempt was made on the life of President Gala Plaza Lasso when an explosion destroyed a bridge shortly after his car had passed over it.

Nov. 4. Tehran, Persia. Abdol Hossein Hajir, prime minister from June to Nov. 1948, was shot and severely wounded by Hossein Imami. Hossein Hajir died on Nov. 5; his assailant was sentenced to death by a military court the same day and executed on Nov. 9.

Nov. 6 Damascus, Syria. Lieutenant Colonel Walter Francis Stirling, Damascus correspondent of *The Times*, London, was shot at and severely wounded by three men dressed as tribesmen.

Dec. 3. Sibu, Sarawak. Duncan George Stewart, governor and commander in chief of Sarawak, was stabbed by a young Malay during the governor's first visit to Sibu. He was seriously wounded and flown to Singapore for medical treatment. He died on Dec. 10, and was buried the following day in Singapore with full military honours.

Dec. 10. Freetown, Sierra Leone. Sir John Lucie-Smith, chief justice of Sierra Leone, was shot at and wounded while asleep in his house at 3 a.m.

ASSOCIATION FOOTBALL: *see* FOOTBALL.

ASTRONOMY. Observatories. The year 1949 opened with an event of high significance for the progress of astronomy: the making of the first photographs with the 200 in. Hale telescope on Mount Palomar, California, U.S.A. From January to April about 60 exposures were made under the direction of Dr. Edwin B. Hubble, who stated that they confirmed the most optimistic predictions of the designers. Some plates recorded galaxies at an estimated distance of about a 1,000 million light-years. For these tests the figure of the great mirror had intentionally been left a shade too high near the edge; afterwards it was dismantled for final re-touching. The Hale telescope has for an essential companion-instrument the 48 in. Schmidt camera. Whereas the



The spiral nebula Messier 81, a stellar system in the Great Bear. This photograph was taken on Feb. 18, 1949, with the 200 in. Hale telescope of the Mount Wilson and Palomar observatories, California.

Schmidt will reveal almost all objects " readily seen " with the 200 in. instrument it can show on a single plate a region of the sky some hundreds of times greater than the area covered by one plate taken with the latter. In July the Schmidt was put to work on the *National Geographic Society—Palomar Observatory Sky Atlas*, which would take about four years to complete and would comprise about 2,000 plates, covering about three-fourths of the entire sky, photographed once in blue light and once in red. It would record some 10 million galaxies and some 500 million stars of our own Galaxy. Besides serving as an atlas proper, it would serve other important purposes. It would provide the most extensive survey yet made of the distribution of galaxies. Again, for instance, in future when a nova appears there will be a good chance of identifying the star concerned in the *Atlas* and thus seeing what sort it was before its outburst, a feature about which existing evidence is meagre.

Perhaps the most important purpose of the *Atlas*, however, is to locate objects for detailed study with the 200 in. Thus, one of the most significant classes of object for cosmological investigation is that of remote clusters of galaxies. The few that have been discovered by chance indicate that there must be a large number: the 48 in. Schmidt is incomparably the best existing intrument for finding them, as is the 200 in. for studying them when found.

The Solar department was the first observing department of the Royal Greenwich observatory to start work at Hurstmonceux, Sussex, whither the whole observatory will be transferred during the next few years. The Nautical Almanac office and some other non-observing departments were in operation at Hurstmonceux by the end of the year. The trustees of the McGregor fund in Michigan presented a 98 in. " Pyrex " glass disk for use in the Isaac Newton telescope.

Interstellar matter. This has been one of the most fruitful fields of astronomical research in current years. The existence of interstellar matter, in addition to what is immediately evident in the form of bright and dark nebulæ, has long been known. In the part of the Galaxy near the Sun, it is estimated to comprise about as much material as that of the stars themselves in the same region. Various processes of inference lead to the conclusion that it consists predominantly of hydrogen gas. For the rest, apart from an undetermined amount of helium, it contains under 1% by mass of other elements in the gaseous state and about an equal mass of solid particles. There is no evidence of any considerable variation of composition from one part of space to another.

Interstellar gas absorbs certain frequencies of the stellar radiation traversing it, thus producing " interstellar lines " in the stellar spectra. Observable interstellar lines are all due to certain of the " other elements " mentioned (conditions in interstellar space being such that the hydrogen and helium present cannot in general produce absorption lines in accessible frequencies) and, as recently identified by A. McKellar and A. E. Douglas, the molecular combinations CN and CH. In 1936, S. C. Beals discovered that interstellar lines are sometimes multiple in structure, indicating their production in such cases by several interstellar clouds with different sightline velocities.

In 1949, W. S. Adams gave an account of work at Mount Wilson, nr. Pasadena, California, which forms the greatest single observational contribution yet made to the study of details of the distribution and motion of interstellar gas. The work is mainly a skilful exploitation of Beals's discovery, employing the utmost refinement of spectroscopic technique. Adams used about 300 selected stars in whose spectra the interstellar lines are not confused by lines proper to the stars themselves, and whose brightness and relative

spacing renders them suitable to yield the desired information.

Some conclusions indicated or confirmed by Adams were: (i) The molecules mentioned are prevalent in interstellar gas and have effectively the same spatial distribution as the more familiar atoms in the gas. (ii) The interstellar gas is largely concentrated into clouds whose thickness averages something of the order of 20 parsecs. The clouds themselves tend to concentrate towards the galactic plane in whose vicinity they are estimated to occupy about 15% of interstellar space. (iii) The clouds have individual random velocities averaging about 20 km./sec., the larger clouds having in general the smaller speeds. (iv) Apart from certain particular systems, there is no special association between individual clouds and individual stars.

Turning to the solid particles in interstellar matter, H. C. van de Hulst published from Utrecht, Holland, an extensive theoretical investigation. Various general considerations show the particles to be about 10^{-5} cm. in diameter. He studied the physical chemistry of the condensation of such particles in a gas under interstellar conditions and concluded that they have indeed originated by condensation. Therefore he favoured the term "smoke" for this constituent of interstellar matter, rather than "dust" which implies an origin in the disintegration of larger bodies. He concluded also that the smoke might be described as consisting of "ice with impurities." He investigated the optical properties of the particles and showed that they provide a good explanation of interstellar extinction of stellar radiation as regards both total amount and dependence on wavelength. His value for the mean density of the smoke in the neighbourhood of the Sun is $1 \cdot 4 \times 10^{-26}$ g/cc.

W. A. Hiltner announced the remarkable discovery that light from some distant stars is *polarized* (to the extent of about 10%). His observations showed that the effect is not associated with particular stars but must be introduced in the passage of the radiation through interstellar space. Scattering by the smoke particles is the only known agency that might operate in this way. As Hiltner pointed out, this would require the particles to be non-spherical and oriented in some preferential directions. The effect might thus provide an unexpected means for investigating physical conditions in interstellar space.

Sun. The luminosity of the Sun, measured on the scale of stellar magnitudes, is a quantity whose accurate determination is of great importance but also of great practical difficulty. R. van der R. Woolley and S. C. B. Gascoigne published a new determination from a comparison of the Sun and Sirius by photographic spectrophotometry using devices developed at Mount Stromlo Commonwealth observatory at Canberra, Australia. The comparison was made at four wavelengths. The authors cited also preliminary results of photoelectric spectrophotometry performed at Mount Stromlo which showed that the previously accepted magnitude of Sirius was somewhat too high. Allowing for this, they obtained about $-26 \cdot 9$ for the Sun's apparent photovisual magnitude in good agreement with earlier determinations.

E. Durand, J. J. Oberley and R. Tousey published an analysis of the first rocket ultraviolet solar spectra, which resulted from the work of the U.S. Naval Research laboratory at Washington. The spectra were obtained at heights of 35 to 75 km. They covered the hitherto unobserved wavelength-interval from 2,900 to 2,200 angstroms, and this is found to be more complex than the familiar part of the spectrum. Certain lines or line-multiplets of neutral and ionized iron and magnesium, of neutral silicon and of ionized magnesium feature prominently. A pair of strong lines due to ionized magnesium reproduces characteristics familiar in the H and K lines of ionized calcium in the visible spectrum. The background intensity was estimated to be well below the black-body intensity for 6,000 degrees. The results will repay much further study; meanwhile they appear generally to confirm the predictions of solar physicists.

One of the three "crucial tests" of Einstein's relativity theory is that the lines in the solar spectrum should show a red-shift in wavelength of about two parts in a million with respect to the corresponding lines in laboratory spectra. M. G. Adam published her new "absolute" measurements of solar wavelengths using the high dispersion of better than one angstrom per mm. rendered possible by an interferometric method. After all known corrections had been applied, she found almost no shift in wavelength except in the light from the outermost 10% of the radius of the solar disk, the shift reaching about the Einstein value near the edge of the disk. She refuted the earlier explanation of such a result, depending upon postulated radial currents in the solar atmosphere. Consequently, it was still undecided whether the Einstein effect does exist and is masked for most of the disk by some other unknown effect or whether it does not exist and some unknown effect produces a shift only near the solar limb.

Solar system. Following the discovery of a fifth satellite of Uranus in 1948, a second satellite of Neptune was discovered in 1949, also with the 82 in. reflector of the McDonald observatory, Mount Locke, Texas. The newly found satellite has an orbital radius more than 20 times that of the previously known satellite Triton, and a period of about two years; its estimated diameter is only about 200 mi.

An interesting relation between the solar system and the interstellar "smoke" mentioned above was suggested by a new theory of the origin of comets given by R. A. Lyttleton. According to this, if the sun traverses an interstellar cloud, the smoke particles moving in its gravitational field tended to collide with each other in its wake and so to form a smoke trail there. Examining the further gravitational effects which ensues, Lyttleton concluded that this trail would give rise to comets having characteristics as regards number, masses and orbits in agreement with actuality. (W. H. McC.)

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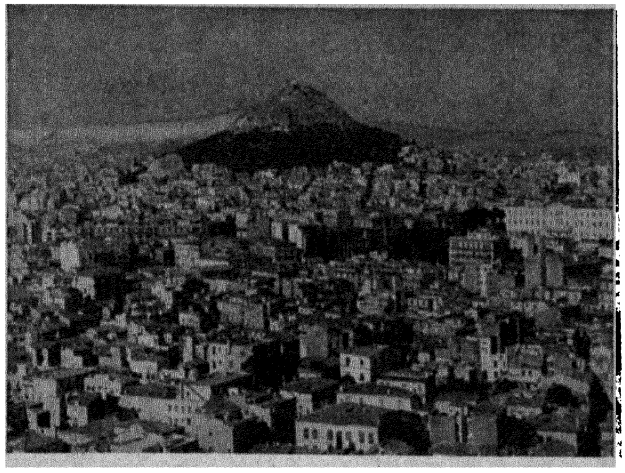
ATHENS, capital of Greece and—east of Rome and south of Vienna—the largest city of Europe. Area: 17 sq. mi. Pop.: (1938 est.) 392,731; (1949 est.) 700,000. Lord mayor, General Ioannis Pitsikas.

What might be called Greater Athens fills a triangle of which one side is based on the Saronic gulf from Perama to Vouliagmeni with the opposite vertex at Ekali. This Greater Athens covers approximately 70 sq. mi. and contained in 1949 some $1 \cdot 5$ million inhabitants—one-fifth of the population of Greece. In fact, however, what appears to be agglomeration is divided into 39 townships and rural districts of which Athens proper and the port of Piræus are the largest.

After the liberation the city was governed by a lord mayor and a municipal council appointed by the government. In May, 1949, women were represented on the council by the appointment of Mmes. E. Pantelaki and A. Manzolinou. The cost of repair work to public utilities in existence before 1940 was estimated at £410,000. As the population had nearly doubled between 1938 and 1949, essential new public services were estimated to cost over £10 million. Substantial progress was made at the Piræus with the extensive reconstruction begun in 1948.

On Nov. 20 the departure from the city of the 1st battalion East Surrey regiment was marked by a ceremonial parade at which the salute was taken by King Paul, Queen Frederika,



View of Athens as it appeared from the Acropolis in 1949. The high ground in the centre is Lycabettus.

Marshal A. Papagos, commander in chief of the Greek army, and Sir Clifford Norton, the British ambassador.

The circulation of seven morning and four evening newspapers of all political shades totalled approximately 270,000, three-fifths of the sales being in the Greater Athens area.

ATHINAGORAS I. (Aristoklis M. Spyrou), archbishop of Istanbul (New Rome) and 268th oecumenical patriarch of the Holy Orthodox Catholic Apostolic Eastern Church (b. Vassilikon, Epirus [then part of the Ottoman empire], March 25, 1886), was the son of a doctor. He was educated at the Greek high school and the Holy Trinity theological school on the island of Heybeli, near Istanbul. Ordained deacon in 1910, with the name of Athinagoras, he became a priest two years later and in 1919 was designated archdeacon and first secretary to the archbishop of Athens. From 1922-30 he was bishop of Corfu. Inducted as archbishop of the Greek Orthodox Church in North and South America in New York on Feb. 24, 1931, he established there a theological seminary. In Feb. 1938 he became a U.S. citizen. On Nov. 1, 1948, he was elected oecumenical patriarch by the Holy Synod of the Orthodox Church in Istanbul and, renouncing American citizenship, succeeded the Patriarch Maximos V on his resignation on Oct. 18, 1948. Enthroned on Jan. 27, 1949, Athinagoras stressed the necessity for friendship between Turkey and the United States and called on communicants of all faiths, "to unite for peace which has not yet been established." In February he paid an official visit to President Ismet Inönü. On June 22 Myron Taylor, personal representative of President Harry S. Truman at the holy see of Rome, met Athinagoras when in Istanbul.

ATHLETICS. The year following the Olympic Games saw no trace of anti-climax in European athletics. Early in the season a small American team visited Great Britain and this was followed in July by a larger team which toured Scandinavia and western Europe. In many cases improvements were made upon performances achieved during the Olympic season and, although it was evident that the United States could still field a team capable of taking on the rest of the world, in many events hitherto their own preserve they were being challenged by Europeans. The Scandinavian superiority over the rest of Europe was less pronounced than in former years; in August Great Britain easily beat France in London, and a month later France beat Sweden by 93 points to 91; the teams were not at full strength, however, and Great Britain was able to call on Empire athletes, who would not represent her, for example, in the Olympic Games.

The main event of the season in Scandinavia was the match against the United States in which Scandinavia were beaten by 238½ points to 224½. In this contest the winning performance in six of the 23 events beat that achieved in the 1948 Olympic Games. J. Fuchs, U.S.A., broke the world record for the weight with a putt of 58 ft. 4⅜ in. and F. E. Gordien, U.S.A., the discus record with a throw of 186 ft. 10⅞ in.

Sweden remained the best of the Scandinavian countries and in a match in September beat the rest of Scandinavia by 232 points to 196, a larger margin than in the same event in 1947. A. Ahman, winner of the Olympic hop, step and jump won this event and also the high jump. In G. Leandersson Sweden had the greatest marathon runner of the day. Amongst the milers, O. Aberg now led L. Strand, S. Landqvist, G. Bergkvist and the Olympic champion H. Eriksson. Finnish athletics showed a steady improvement and Czechoslovakia was defeated by 104 points to 97. The great distance runner V. Heino, at 36 years of age, achieved a remarkable return to form and was the only man in the world capable of extending the Czech, E. Zatopek. On Sept. 1 Heino recaptured the world record for the 10,000 m. which he covered in 29 min. 27·2 sec. However, on Oct. 22, the record fell again to Zatopek with a time of 29 min. 21·2 sec. Iceland produced perhaps the greatest athlete in her history in O. Claussen, the leading Scandinavian decathlon expert.

A small team from Hungary travelled to London to compete in the A.A.A. championships. I. Németh won the hammer and F. Klics the discus.

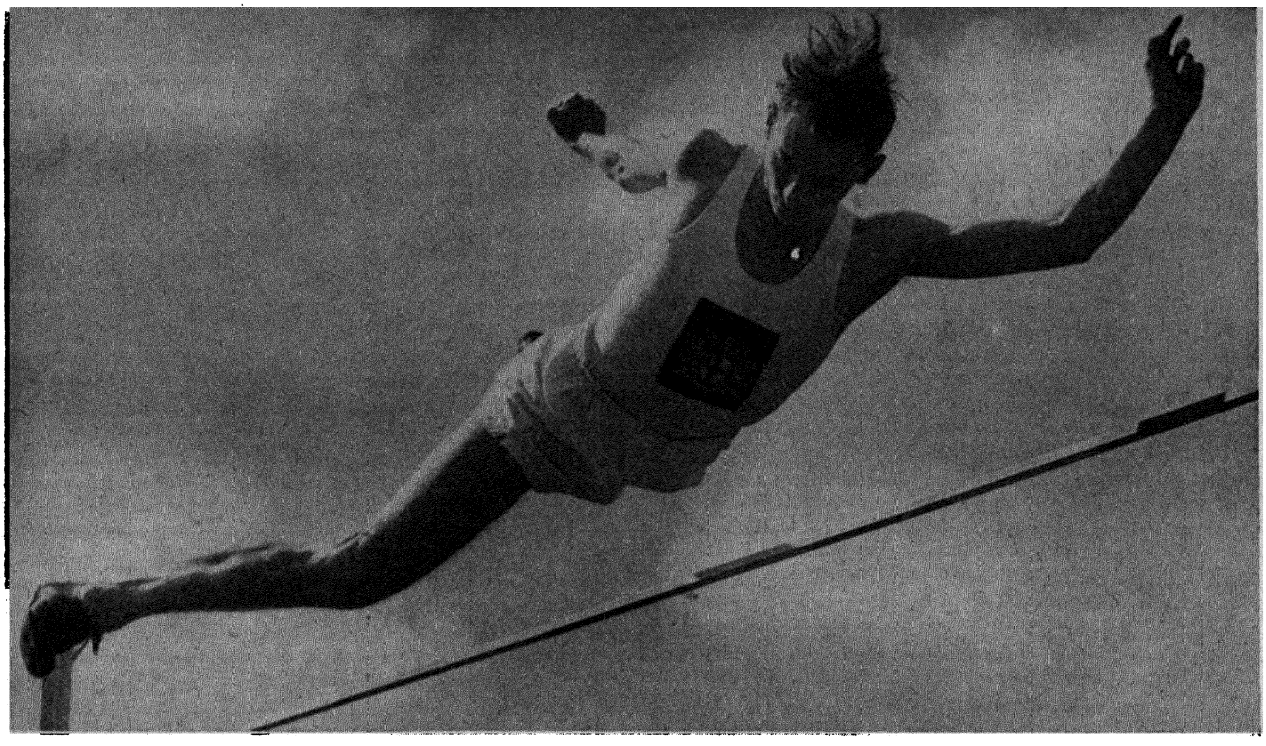
There was considerable evidence of a rebirth of athletics in Germany, although she played no part in international competition. The sprinters, long jumpers and hammer throwers were thought to be among the best in Europe, and there were some remarkable women athletes.

French athletics suffered from the retirement of the great middle distance runner M. Hansenne, but the loss was made less acute by the improvement of the twins Jean and Jacques Vernier. I. Heinrich set up a new French decathlon record with 7,165 points. France won the international cross country championship at Belfast in March, supplying the individual winner, A. Mimoun.

In Great Britain and Ireland the improvement in the general standard was more marked than elsewhere. A team from Oxford and Cambridge visited the United States in June and, although beaten by Princeton and Cornell, gained a clear victory over Harvard and Yale. Great Britain beat France by 82 points to 65 at the beginning of August, and a week later London defeated Gothenburg in the first match between the two cities by 83 points to 57. The outstanding performances of the season were in the high jump, in which both R. C. Pavitt and P. Wells cleared 6 ft. 6 in., breaking an English native record that had stood since 1921. G. W. Nankeville was probably the best of a group of six or seven milers, all capable of 4 min. 14 sec. or better. A. S. Wint was still outstanding in the middle distances, but E. McD. Bailey had lost much of his fire as a sprinter and had to give way to a Jamaican L. Laing. J. T. Holden remained one of the best marathon runners. D. O. Finlay (*q.v.*), at the age of 40, won the 120 yd. A.A.A. hurdles championship for the eighth time.

Oxford beat Cambridge in the university sports in March by 72 points to 54. R. G. Bannister of Oxford broke the mile record for the meeting which had stood since 1905 and P. R. Ll. Morgan, also of Oxford, the three mile record set up in 1914. The Kinnaird trophy was won by Polytechnic harriers, the Achilles club, holders from 1935, fielding a team weakened by the absence of many members representing Oxford and Cambridge in the United States. (M. A. Me.)

United States. The National Amateur Athletic union's 100 m. and 200 m. sprint titles were won by Andy Stanfield



R. C. Pavitt, Polytechnic harriers, breaking the English native high jump record in the London-Gothenburg international match at the White City, London, in Aug. 1949. He cleared 6 ft. 6 in. thus breaking Howard Baker's 28 year-old record by one inch.

of Seton Hall. Craig Dixon of the University of California at Los Angeles won both the 110 m. high hurdles and 200 m. low hurdles events, defeating Harrison Dillard in the high event. In 1948 Dillard set up a world record of 13·6 sec. for this event, but in 1949 both Dixon and Dillard could only achieve 13·8 sec. Malvin Whitfield, 1948 Olympic winner at 800 m., won the National Collegiate Athletic association's outdoor and the A.A.U. titles at this distance. His best time during the season was 1 min. 50·3 sec., 1·1 sec. slower than his Olympic record. The Wanamaker mile went to Don Gehrmann of Wisconsin who beat Willy Slykhuis of the Netherlands in 4 min. 9·5 sec. Gehrmann also won the A.A.U. 5,000 m. and 10,000 m. championships. The 1948 Olympic decathlon winner, Bon Mathias, retained his A.A.U. championship. Charley Moore of Cornell university established a new national record of 51·1 sec. for the 400 m. hurdles. The best high jump of the season was by Walters of Texas with 6 ft. $8\frac{3}{16}$ in. while Gay Bryan of Stanford university jumped 25 ft. $4\frac{1}{4}$ in. in the long jump.

Five Europeans, Gaston Reiff of Belgium, Slykhuis, Marcel Hansenne of France, and Eric Ahlden and Ingvar Bengtsson of Sweden, took part in the U.S. indoor season.

Tuskegee institute retained the women's National A.A.U. outdoor championship. Mrs. Nancy Phillips of New York won both the high and long jump events in the National A.A.U. indoor games.

ATOMIC ENERGY. On Sept. 23, 1949, it was announced officially in London and Washington that evidence of an atomic explosion in the U.S.S.R. had been obtained. A few days later, the Moscow press referred to these announcements and connected them with "blasting by the most modern methods." In October, A. Y. Vyshinsky confirmed the U.S.S.R.'s possession of atomic weapons and gave a reminder that V. M. Molotov had stated in 1947 that the secret no longer existed. The tone of British comment on this development was sober. The news was not exactly a surprise, for it had been said many times by competent authorities that the basic principles of atomic weapons were no secret and that the technology could be mastered by any nation able to draw upon substantial scientific skill and large industrial resources. There were some queries both in parliament and outside about British progress, but generally there was more emphasis on the political than on the technical aspect of the situation. As regards the methods by which the western powers had obtained the information on which their announcement was based, it could only be learned that collaboration between observers in various countries was involved. It had long been recognized that the radioactive materials generated in an atomic explosion could be windborne to great distances and that methods of extreme sensitivity could be used to detect them; for example, an article in the *Physical Review* (vol. 76, pp. 375-380) gave strong evidence for the detection in Iowa of radioactivity from the 1945 test explosion in New Mexico, 1,000 mi. away.

There are three scientific methods of detecting an atomic explosion. The ground vibrations are revealed by seismographs. The air vibrations can be recorded by the microbarograph, an ultra-sensitive barometer which detects minute and sudden changes in atmospheric pressure. The radioactive cloud, which drifts with the wind, can be detected by Geiger counters and similar instruments. When the first Bikini bomb was set off, evidences of the radioactive cloud were recorded 10 days later by Geiger counters on the Pacific coast of the United States.

British Technical Developments. At the Ministry of Supply's Atomic Energy Research establishment at Harwell, Berkshire, the second and more powerful uranium fission pile was brought into full operation early in 1949; from March onwards, it was in regular use for the production of radioactive substances for scientific and medical purposes. At about this time, it was announced that some plutonium had been extracted from the low-energy pile, which had then been in operation for more than a year. A large part of the new radiochemical laboratory was completed and taken into use during the year. This laboratory was of very advanced

design and was fully equipped for chemical operations with substantial amounts of radioactive material. Extreme precautions were taken against the personal hazards involved in such work and against the spreading of radioactive contamination to other parts of the establishment.

At Sellafield, Cumberland, constructional work for still larger piles went on; it was understood, though never officially announced, that three such piles were to be built and that they would be capable of producing substantial quantities of plutonium. According to reports in *The Times* of Dec. 5 and 6, the building for the first pile was complete, that for the second was going up but the programme for the third pile had been cancelled for financial reasons.

A large frequency-modulated cyclotron was given a successful first trial at Harwell in December. Cyclotrons are research tools and not generators of atomic energy, and are machines for setting atomic nuclei in motion with extremely high speeds. The field of a powerful electromagnet causes the nuclei, which are electrically charged, to pass repeatedly across the gap between two metal electrodes within a vacuum chamber; a high-frequency alternating voltage between these electrodes is so arranged that at each time the nuclei cross the gap they are given additional speed. If, for example, they cross the gap 2,000 times and at each crossing are speeded up by 50,000 volts between the electrodes, their final speed will correspond to 100 million volts.

So long as the speed attained is only a small fraction of the speed of light, the frequency of alternation of the voltage between the electrodes can be kept constant; but to reach the highest possible speeds the principle of frequency-modulation (changing the frequency of the alternating voltage as the group of nuclei gains speed) is necessary. The Harwell cyclotron was the first frequency-modulated cyclotron constructed in Britain; on its trial, it accelerated hydrogen nuclei to 160 million volts. Nuclei moving with such speeds (roughly half the speed of light) can cause a wide variety of changes when they collide with the nuclei of other atoms.

Three smaller cyclotrons already existed in British universities; and a still larger one was under construction at the University of Liverpool.

Relations with Canada and the United States. A conference on the hazards associated with the operation of fission piles was held at the Harwell establishment in September; it was attended by U.S. and Canadian representatives and was an example of the co-operation, in certain aspects of atomic energy work, that had been maintained between the three countries since the end of World War II. This collaboration, including a system for controlling the release of information obtained jointly during World War II and arrangements concerning the supply of essential raw materials, was under review during the year; the agreement on the supply of Canadian uranium to the U.S. was understood to expire at the end of 1949, but it was expected that arrangements would be made for future U.S. purchases of this material. Reports were current that the agreement on the exchange of scientific and technical information about atomic energy, which covered only limited portions of the subject, might be renewed in a wider form and might be linked with a concentration of large-scale developments on the North American continent.

Sources of Uranium within the Commonwealth. Preparations for the mining of uranium in Australia continued and it was expected that substantial yields would be obtained in 1950. The possibility that South Africa might become an important source of uranium was brought to mind by the announcement of discussion in Johannesburg on uranium production, in which British and U.S. representatives took part. There was, however, no indication of how these deposits of uranium in the southern hemisphere might compare with the very rich ones in Canada. (P. B. M.)

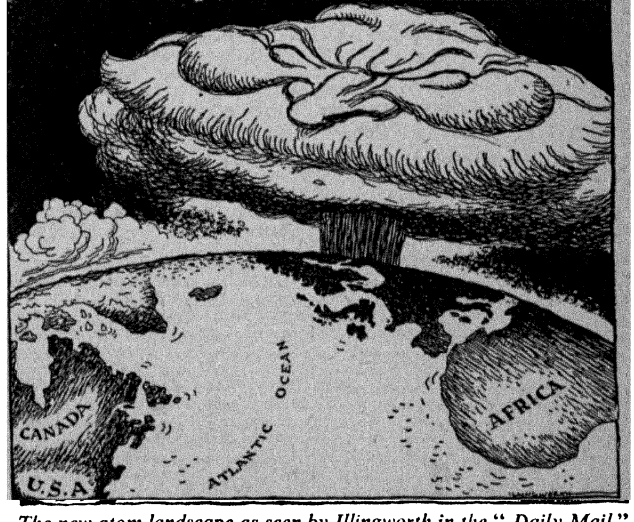
United Nations. All attempts during 1949 to resolve the fundamental differences of opinion between the majority of nations in the United Nations and the Soviet *bloc* on the international control of atomic energy failed.

On Nov. 4, 1948, the United Nations general assembly, meeting in Paris adopted by a vote of 40 to 6 a four-fold resolution which (1) approved the plan of international control outlined in the three reports of the United Nations Atomic Energy commission, (2) expressed deep concern over the *impasse* in the commission, (3) requested the representatives of the five great powers and Canada to initiate private conversations in an effort to end the *impasse* and (4) called on the commission to resume its deliberations.

The majority plan was based on the premise that a mere agreement outlawing the atomic bomb would be insufficient. The plan would create an international control agency which would have ownership or managerial control of the production of uranium, the manufacture of fissionable materials and all atomic activities potentially dangerous to world security. It would have the power to license, control and inspect all other atomic activities. The agency would be empowered to create an international inspection service, make aerial surveys, maintain guards and otherwise take precautions to prevent clandestine operations. It specified that the veto power vested in the Security council of the United Nations would not apply to the control agency.

In accordance with the directive of the general assembly, the United Nations Atomic Energy commission resumed its meetings on Feb. 18, 1949. It became apparent almost immediately that the U.S.S.R. delegation had no intention of withdrawing from the position it had taken during the previous three years. On July 29 the commission voted to suspend its work indefinitely. The vote, following the characteristic pattern of previous years, was 9 to 2 with the U.S.S.R. and the Ukraine casting the negative votes.

Six-Power Conversations. Following the adjournment of the United Nations Atomic Energy commission, the five great powers and Canada initiated the private conversations requested by the general assembly. These six powers, the U.S., U.S.S.R., Great Britain, France, China and Canada, were the permanent members of the Atomic Energy commission and were known as " the sponsoring powers." The first meeting was held behind closed doors at Lake Success, New York, on Aug. 9, 1949.



The new atom landscape as seen by Illingworth in the " Daily Mail " (London) after the announcement on Sept. 23, 1949, that an atomic explosion had occurred in the Soviet Union.

On Oct. 26, after 11 secret meetings, the six powers made an interim report to the general assembly. It revealed that no progress had been made. At the same time all the powers with the exception of the U.S.S.R., issued a joint statement explaining their objections to the Soviet proposals. The statement summarized " three basic obstacles in the way of agreement." These were the proposals of the U.S.S.R. that (1) nations should continue to own explosive atomic materials, (2) nations continue to own, operate and manage facilities making or using dangerous quantities of such materials, and (3) a system of control be adopted depending on periodic inspection of facilities the existence of which the national government concerned has reported to the international agency, supplemented by special investigations on suspicion of treaty violation. The five powers believed that these proposals were insufficient to prevent the sudden or clandestine diversion of atomic materials to purposes of war.

The General Assembly. While the six-power secret talks were in progress, the debate over the control of atomic energy flared out again in the United Nations general assembly. In several addresses the Soviet foreign minister, A. Y. Vyshinsky, accused the U.S. and Great Britain of plotting an atomic war. Sharp exchanges took place between Vyshinsky and the representatives of the U.S., Great Britain and Canada. In a letter to the six powers, Carlos P. Romulo, president of the general assembly, suggested possible compromise solutions, in order to break the deadlock.

An address by Vyshinsky on Nov. 10 before the Special Political committee of the assembly was interpreted by most delegates as a final rejection of the majority plan. In the course of the address Vyshinsky said that the U.S.S.R. was utilizing atomic energy for its economic needs in its own economic interests.

On Nov. 14 the Special Political committee by a vote of 48 to 5 adopted a resolution introduced by France and Canada calling on the six sponsoring powers to continue their private talks in an attempt to solve the problem. The five negative votes were those of the Soviet *bloc.*

Early in Dec. 1949 General A. G. L. McNaughton, Canada, chairman of the United Nations Atomic Energy commission, in keeping with this resolution asked General Carlos P. Romulo and Sir Benegal Rau to submit new proposals on the control of atomic energy. Replying on Dec. 16, Romulo suggested that the search for a permanent solution be suspended for a few months and an attempt made to arrive at a short-term interim agreement.

United States. The U.S. stockpile was believed to contain more than 100 bombs although the true figure was one of the nation's most carefully guarded secrets. An immediate effect of the atomic explosion in the U.S.S.R. was to accelerate the U.S.'s programme. On Oct. 18 President Truman authorized the U.S. Atomic Energy commission to draw on its budgetary reserve for funds to begin a major expansion of its production programme. Soon after, congress rushed through legislation to relax the curb it had placed on the commission's spending powers in July 1949. Under the new legislation, the commission could start construction of unbudgeted facilities if it satisfied the director of the budget that they were necessary for national defence.

New Eniwetok Tests. On Nov. 29, 1949, the U.S. Atomic Energy commission announced that a new series of tests of atomic weapons would be held at Eniwetok atoll in the Marshall Islands in 1950. The assumption was that a new and yet more powerful bomb was ready for testing. The field operations were to be carried out by joint task force 3, representing the army, navy, air force and Atomic Energy commission.

The Ultimate Weapon. Scientists believed that the ultimate weapon would be a rocket powered by atomic energy, capable of crossing an ocean or the arctic regions, and carrying an atomic bomb in its nose. However, they believed that before that day arrived, there would be rockets of the familiar V-2 type capable of delivering atomic bombs.

Three-Power Conference. Considerable interest was aroused by a secret meeting called by President Truman at Blair house, Washington, D.C., on the evening of July 10, 1949. It was attended by the secretary of state, secretary of defence, the temporary chairman of the joint chiefs of staff, the chairman of the U.S. Atomic Energy commission and a group of congressmen representing the foreign affairs, military and atomic energy committees. It was later disclosed that the meeting had been called to discuss relations of the United States, Great Britain and Canada in the field of atomic energy. It was understood that the British government had requested secret data from the United States. The situation was clarified on July 28 when President Truman announced that the three nations would hold exploratory talks on the question of sharing atomic information and allotting supplies of uranium ores. The three-power conferences began in Washington on Sept. 20. The expressed purpose of the conference was to consider establishing a partnership for the joint utilization of materials, techniques and knowledge in the field of atomic energy.

U.S. Atomic Energy Commission. Chief emphasis was placed on the development and production of atomic weapons and of the fissionable materials required for their manufacture. Increasing attention was given to the design of new types of nuclear reactors. The research programmes in the physical, biological and medical sciences were expanded, and important additions were made to the commission's laboratories.

The improved atomic bombs tested at Eniwetok in 1948 were put into production during 1949. Component parts were produced on an industrial basis by manufacturing concerns with special government facilities. In collaboration with the U.S. geological survey, the commission continued the examination of virtually every rock formation in the country for uranium ores. Fissionable materials were produced in 1949 in greater quantities than ever before. Increased shipments of ore from Canada and the Belgian Congo were supplemented by domestic production. The chemical and metallurgical plants which converted ore into " feed materials " for the Oak Ridge, Tennessee, and Hanford, Washington, plants, were put on a sound operating basis. Unit production costs were reduced 30% below the 1947 level and intermediate stock piles were built up to adequate levels.

Installation of new equipment and improvements in operating technique reduced the cost of producing uranium 235 in the gaseous diffusion plant at Oak Ridge by 50%. In addition, the yield from a given amount of uranium was increased. Improvements in the operation of the Hanford plutonium plant increased by 40% the amount of plutonium produced per dollar of operating cost. A new uranium pile for the production of plutonium and a new plutonium metal fabrication plant began operations at Hanford in 1949. Construction work was started at Oak Ridge on a $67 million expansion of the plant for the production of uranium 235.

The " Breeder " Reactor. On Nov. 28, 1949, L. R. Hafstad, director of the division of reactor development of the U.S. Atomic Energy commission disclosed that the final work was being done on the design of a " breeder " nuclear reactor, a uranium pile that would produce more fissionable fuel in the form of plutonium than it consumed in the form of uranium 235. He described this reactor as the greatest peacetime development in the history of atomic energy and said that it was hoped to build the device during 1950 at the Nuclear Reactor Testing station near Arco, Idaho.

On Dec. 13 Hafstad revealed that his division was also working on another reactor of revolutionary design, a so-called homogeneous reactor. This device would employ nuclear fuel in a constantly circulating liquid form instead of a solid form. It was anticipated that this would eliminate the difficulty of removing the fission products, the nuclear " ashes " which clogged up the reactor.

Research on a type of reactor suitable for ship propulsion was being carried on by the Argonne National laboratory near Chicago, Illinois, and by the Westinghouse Electric corporation.

An " intermediate power breeder reactor " which would generate power as well as breed some additional fuel was being designed at the Knolls Atomic Power laboratory near Schenectady, New York. A reactor for research purposes, nearing completion at the Brookhaven National laboratory, Long Island, New York, was expected to begin operation in 1950.

Radioactive Isotopes. An average of 400 shipments per month of radioactive isotopes was made during 1949 from Oak Ridge to laboratories all over the United States and to 22 foreign countries. The use of radioactive isotopes was constantly increasing. Physicians and biologists were using them as " tracers " to follow complicated biological processes in living organisms ; to investigate the formation of the blood and body secretions; to understand the physiological action of hormones, vitamins and drugs; to delineate the changes in such diseases as diabetes, heart disease and kidney disease; and to follow the growth and death of cancer cells. An important development was the experimental use of radioactive cobalt as a substitute for radium in the treatment of cancer.

The division of biology and medicine of the commission was carrying on an extensive programme to investigate the effects of radioactivity on living organisms and to devise safeguards.

New Atom-Smashers. Two particle accelerators or atom-smashers of gigantic proportions were under construction by the U.S. Atomic Energy commission. They would dwarf the 184-in. cyclotron at Berkeley, California, which was, in 1949, the largest in the world.

At Brookhaven scientists were building a proton synchrotron which had been named the cosmotron. It would impart energies of 2,000 million to 3,000 million electron volts to subatomic particles. An even larger proton synchrotron, the bevatron, was being built at the Berkeley Radiation laboratory. It would develop 5,000 million to 7,000 million e.v.

Smaller atom-smashing devices were completed or were nearing completion at the Brookhaven, Argonne, Oak Ridge and Los Alamos laboratories. In addition the commission was financing researches in the physical sciences in more than 50 university and industrial laboratories.

Congressional Investigation. On May 22, 1949, Senator Bourke B. Hickenlooper, former chairman and ranking Republican member of the congressional joint committee on atomic energy, issued a statement charging David E. Lilienthal, chairman of the U.S. Atomic Energy commission, with " incredible mismanagement " and demanding his resignation. Hearings were held before the congressional joint committee on atomic energy. The committee brought in a majority and a minority report in October, splitting on straight party lines. The majority report held that all of the charges had been satisfactorily answered and, moreover, that the commission had done an exceptionally fine job of administering the atomic energy programme. The minority report virtually ignored the subject matter of the hearings and, taking a new tack, raised a new issue, charging the commission with hesitation and insufficient boldness in initiating a major development programme. On Nov. 23, 1949, Lilienthal tendered President Truman his resignation as chairman of the U.S. Atomic Energy commission, to take effect in Feb. 1950.

U.S.S.R. It was impossible, of course, to say what point the U.S.S.R. had reached in its atomic programme. U.S. observers were inclined to discount the claim that the U.S.S.R. had had the bomb since 1947. It was known, however, that the U.S.S.R. had been operating the Czech, Austrian and Saxon pitchblende mines at a feverish rate. The U.S.S.R. was reported to possess uranium deposits in the Tashkent area in the central Asian region of the Soviet Union; in the Ossetia area, north of Tiflis; in Svanetia in northwestern Georgia; in the region between Samarkand and the Ferghan mountains; in the Alai mountains in Turkestan; and in the Kara-Mazar mountains, north of Khodzhent.

Reports circulating in western Europe stated that the U.S.S.R. had created a large underground factory for processing uranium on the Sanga river, a few miles north of Erivan, capital of the Armenian S.S.R. Information received by the U.S. state department indicated that the U.S.S.R. had deported more than 17,000 Greeks and other non-Russians from the Caucasus area since June 1949. It was believed that the U.S.S.R.'s atomic bomb explosion occurred in this area.

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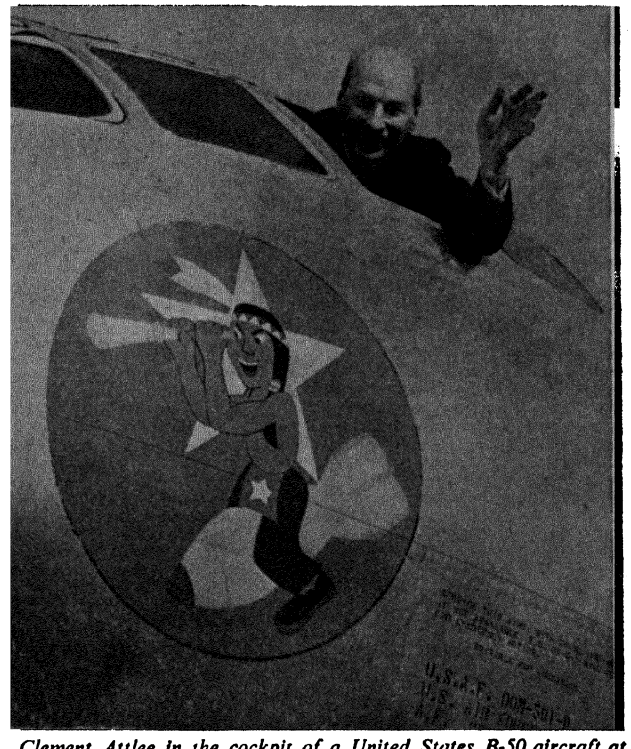
(*See* also INDUSTRIAL HEALTH; METALLURGY; MINERAL AND METAL PRODUCTION AND PRICES; PHYSICS; X-RAY AND RADIOLOGY.)

(D. Dz.)

ATTLEE, CLEMENT RICHARD, British statesman (b. London, Jan. 3, 1883), became prime minister in July 1945 when the Labour party achieved a majority in the House of Commons. (See *Britannica Book of the Year, 1949.*)



Clement Attlee in the cockpit of a United States B-50 aircraft at Marham, Norfolk, during a visit to air bases in Oct. 1949.

In April 1949 he presided over the second meeting within a year of the Commonwealth prime ministers; and in January he held talks with Sir Basil Brooke (*q.v.*), prime minister of Northern Ireland. In March he flew to Germany where he saw the Berlin air lift and had discussions with Western German political leaders. He attended the Labour party conference at Scarborough in June, at which the party's election programme *Labour Believes in Britain* was approved, and on Sept. 7 addressed the Trades Union congress at Bridlington, Yorkshire. In the autumn there was widespread feeling that he would dissolve parliament and call a general election, but on Oct. 13 he issued a statement declaring that he would not recommend the King to dissolve parliament in 1949. During the parliamentary recess he paid visits to the armed forces: in August he visited the Royal Navy and made a descent in a submarine; in October he visited the Royal Air Force and also the United States Air Force at Marham, Norfolk; and later in the same month he watched infantry training and a training regiment of the Royal Engineers near Aldershot, Hampshire. During the absence of senior cabinet members during August and September—Sir Stafford Cripps (*q.v.*), because of illness and later at Washington, Ernest Bevin (*q.v.*), on holiday, at Strasbourg and later in the United States, and Herbert Morrison, lord president of the council, at Strasbourg—he undertook control of their departments. He again acted for the foreign secretary in December when Ernest Bevin was on leave. In April he received an honorary degree from the University of Wales, and on Oct. 12 he laid the foundation stone of the concert hall on the south bank of the Thames.

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AUCKLAND, the largest city in New Zealand and a thriving seaport on the east coast of the North Island; capital of the province of its name. Pop., city and suburbs (Sept. 1948): 329,500, Mayor, J. A. C. Allum.

Within the metropolitan area of approximately 70 sq. mi., in which there are 15 contiguous but independent municipal authorities each with their own officers (including mayor and borough councillors) and accounts, the total revenue (March 31) was £6,890,246 and expenditure £6,666,798. The provisional total cargo handled in the Port of Auckland in the year ended Sept. 30, 1949, was little different from 1948 (2,635,219 tons), in spite of the loss of over 72,000 man-hours when watersiders refused overtime work as a protest against a wage decision by the Waterfront Industry authority and in support of a nation-wide carpenters' strike. Of the man-hours lost throughout New Zealand 76% were lost in Auckland.

Building controls curtailed the erection of other than private dwellings but some leeway in the severe housing shortage was made up.

The establishment of the first annual Music Festival was of cultural importance; and performances were given by national and local groups and single performers. The Italian Grand Opera company visited the city and played several operas. There was an exhibition of early British watercolours arranged by the Empire Art Loan Exhibition society. The number of boats competing in the 99th yachting regatta in Waitemata harbour—over 500—was a world record for a one-day regatta.

Major bequests included £30,000 by Mr. Hallyburton Johnstone to an Auckland girls' home; and £59,000 by Mr. Goldwater for the foundation of a Jewish educational institution. (R.W. B.)

AURIOL, VINCENT, French statesman (b. Revel, Haute-Garonne, France, Aug. 27, 1884). On Jan. 16, 1947, he became the first president under the constitution of the Fourth Republic. (For his early career see *Britannica Book of the Year 1949.*)

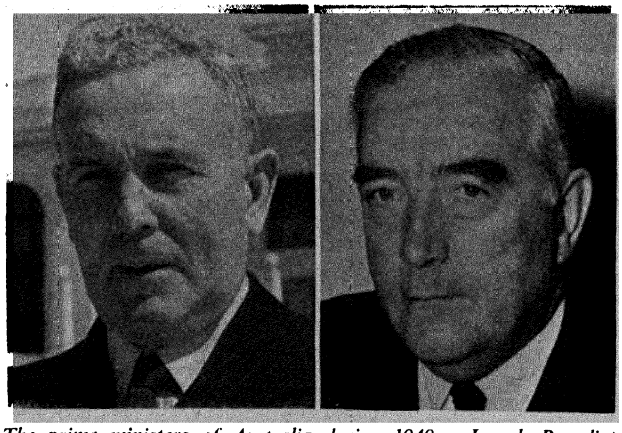
Speaking at Tours, on May 7, 1949, he said that France remained convinced that there would be no lasting peace and prosperity without an association of national sovereignties. On May 29, 1949, he arrived at Algiers on the first presidential visit since that of Gaston Doumergue in 1930 and during his stay visited Bone, Oran, Constantine and Tlemcen. He said that those who thought Algeria could dispense with French sovereignty were madmen.

AUSTRALIA, COMMONWEALTH OF. A self-governing member of the Commonwealth of Nations, situated in the southern hemisphere. Areas and populations of the six federated states, of the Northern territory and the Australian Capital territory are:

States and Territories	*Capital*	*Area* (sq. mi.)	*Population* (*June* 30, 1947 *census*)
New South Wales	Sydney	309,433	2,985,464
Victoria	Melbourne	87,884	2,055,252
Queensland	Brisbane	670,500	1,106,269
South Australia	Adelaide	380,070	646,216
Western Australia	Perth	975,920	502,731
Tasmania	Hobart	26,215	257,117
Northern Territory	—	523,620	10,866
Australia Capital Territory	Canberra	939	16,905
		2,974,581	7,580,820

The total population figure excludes full blood aboriginals estimated at 47,000; half-castes numbered 24,881 in 1944. About four-fifths of the Australian continent is a hot, dry desert, virtually empty of population. Most Australian settlement is confined to three areas; on the eastern and south-eastern coastal plains; on the eastern plateau; and on and near the southwestern coast. Territories under the administration of the Commonwealth but not included in it comprise Papua (*q.v.*), Norfolk Island, the trust territory of New Guinea, Nauru, the territory of Ashmore and Cartier islands, and the Australian Antarctic territory.

Chief towns (pop., June 30, 1947): Sydney (*q.v.*) (1,484,434); Melbourne (*q.v.*) (1,226,923); Brisbane (402,172); Adelaide (382,604); Perth (272,586); Newcastle (127,188); Hobart (76,567). Language: English. Religion: Christian (census 1933: Anglican 2,565,118; Roman Catholic 1,161,455; Presbyterian 713,229; Methodist 684,022; other Christians 603,914); Jewish 29,600. Ruler, King George VI; governor general, William John McKell; prime ministers in 1949, Joseph Benedict Chifley (*q.v.*) and, from Dec. 18, Robert Gordon Menzies (*q.v.*).



The prime ministers of Australia during 1949. Joseph Benedict Chifley (left) from July 13, 1945, and Robert Gordon Menzies from Dec. 18, 1949.

History. The main event of the year was the general election held on Dec. 10. (*See* ELECTIONS.)

Several decisions of the High Court given during the year had a profound effect on public life and on the relations between Commonwealth and the states. The High Court held that the Commonwealth no longer had the power to ration petrol. As a result, petrol was de-rationed; but as the Commonwealth largely depended on dollar area imports, a severe shortage developed. The petrol question displaced the Bank Nationalization act, 1947, as a major election issue. The Privy Council upheld the High Court in declaring vital sections of the Bank Nationalization act invalid. (*See* BANKING.)

Following the failure of the referendum on price control, collaboration between the six states was reasonably successful, although the cost of living continued to rise. Price controls on a number of commodities were removed.

Social service expenditure for 1948-49 at under £81 million remained below the estimate, mainly because of the protracted struggle between the Commonwealth government and the British Medical association over the Pharmaceutical Benefits scheme. Under instructions from the B.M.A., the vast majority of doctors refused to issue free prescriptions on Government forms. The B.M.A. successfully challenged the act before the High Court, which by a majority held that the compulsion for doctors to use government prescriptions and forms was an unconstitutional "civil conscription." The wider National Health Service act, passed in 1948, was not implemented.

The minister for external territories, E. J. Ward, was cleared of charges of corruption by a judge of the Supreme Court of South Australia functioning as royal commissioner.

Communism. Politically, the increased tension between the Communist movement and the rest of the community was the outstanding development. The Victorian government appointed a royal commissioner to inquire into Communist activities in industry, education and other fields. A coal strike lasting from June 27 to Aug. 15 affected practically all hard coal mines in the country and paralysed the industrial life of the country. It arose out of the decision by the Communist-dominated executive of the Miner's federation not to await the decision of the Coal Industry tribunal on a claim for long service leave. The strike was clearly political in character. The Commonwealth parliament reacted by passing an act prohibiting the payment or receipt of money for the continuance of the strike. The Commonwealth Arbitration court was given power to grant injunctions for the purpose of preventing breaches of the act. When leaders of the Miner's federation and other unions refused to disclose the use of their funds, they were sent to prison for contempt of court; they were released after the collapse of the strike and after having apologized to the court. The Commonwealth also used troops to work open-cut mines. The strike collapsed completely without any new concession being obtained by the miners. The Coal Industry tribunal later awarded long service leave, subject to certain penalties for the disruption caused by the strike. The general secretary of the Communist party, Laurence Sharkey, was sentenced to three years' imprisonment—the maximum term—for a seditious utterance in regard to the attitude of Australian workers in the case of war between Australia and the U.S.S.R.

Immigration. The flow of immigrants increased vastly during the year. With more liners and migrant ships coming into service, the numbers of both British and continental European migrants were rising steadily; 75,000 immigrants arrived in the first six months, and the 50,000th migrant from continental Europe, a Latvian girl, was officially welcomed on Aug. 12 by A. A. Calwell, minister for immigration.



Sir Donald Bradman (second from right) with the governor general of Australia, W. J. McKell after receiving the accolade of knighthood, Melbourne, March 15, 1949.

Non-British migrants were housed in reception camps, from which they went to employment, mainly in farming, forestry, nursing services and industry. After a minimum period of two years they were to be free to choose their own occupations.

The government rigidly adhered to its exclusion of non-white immigrants, a policy for which the term "White Australia" was officially discarded. Much public and international controversy was aroused by some actions of the minister for immigration, who deported or threatened to deport an Indonesian wife of an Australian, with a number of Australian-born children, a Chinese farmer established for 20 years in Queensland and forbade the temporary entry of a U.S. army sergeant of Philippine descent for a visit to his Australian wife. To the last-mentioned action, the Philippine government reacted by retaliatory measures.

In 1948-49, 52,573 new houses were completed; but the coal strike affected building in the second half of the year.

External Affairs. Dr. Evatt was a very active president of the third session of the general assembly of the United Nations. Australian representatives were active in supporting the recognition of the new state of Israel, and the sovereignty of the new republic of Indonesia. Australia sent an official observer to the Conference of Asian Nations convened by the Indian prime minister at New Delhi, which strongly condemned the Dutch police action in Indonesia. Australia also took a lead in demanding U.N. investigation of the trial of religious leaders in Hungary and Bulgaria. As one of the main wheat-exporting countries, Australia ratified the important International Wheat agreement between more than 40 countries which assured guaranteed minimum quantities of wheat from a small number of exporting countries to a large number of importing countries, at maximum and minimum prices fixed in the agreement. Australia continued to contribute generously to international relief organizations, in particular to the International Children's Emergency fund.

Commonwealth affairs were of outstanding importance during the year. In April, J. B. Chifley attended the conference of Commonwealth of Nations prime ministers in London, which resulted in a declaration that the republican status of India was compatible with continued membership of the Commonwealth. A few months later, J. J. Dedman, minister for post-war reconstruction, attended in London a conference concerning the financial crisis of Great Britain and the sterling area (*see* below). The Australian Nationality and Citizenship

act, 1948, came into force on Jan. 26, 1949. It was the first to recognize officially Australian citizenship.

Defence. Expenditure for defence services was £61 million[1], slightly above estimates. Expenditure for total war and repatriation services at nearly £150 million was considerably above estimates. Corresponding estimates for 1949-50 were £60 million and £121 million. A new aircraft carrier, H.M.A.S. " Sydney," joined the fleet. The most important naval manoeuvres after World War II were held by the joint Australian and New Zealand navies in October. Further progress was made on the guided missiles project in South Australia. On the retirement of Lieut. General V. A. H. Sturdee, Lieut. General S. F. Rowell was appointed chief of the army staff.

Finance and Economics. The Budget was balanced at £535 million. National income rose by 12% to a new record of £1,955 million, nearly 2½ times the prewar figure. The income of primary producers still showed by far the greatest proportional increase, as the exceptional world demand for wool at very high prices continued through the year. Substantial price rises accounted for an increase of the " C " rate index of retail prices by nearly 9% between Sept. 1948 and Sept. 1949.

Exports of merchandise and gold rose to £536 million as against imports of £415 million. Australia's international balance of payments resulted in a surplus of £41 million, but the prime minister gave grave warning of the dangers to Australia's prosperity that would follow from a world depression and from the dollar crisis of the sterling area. To safeguard against a slump, Australia maintained a large sterling balance estimated at over £400 million in London. The government made another gift of £10 million to the United Kingdom. Australia followed the devaluation of the British pound, thus maintaining the ratio of £4 British to £5 Australian. Australia agreed to cut her dollar imports by 25% and in October obtained a loan of $20 million from the International Monetary fund.

Of many industrial development plans, the official start of the Snowy River Power scheme, which would provide a large proportion of Australia's power and conserve water for irrigation in the Murray and Murrumbidgee valleys, was the most important.

Despite substantial immigration, there was still labour and material shortage in almost every industry. About 30,000 new immigrants were absorbed in national production. Full employment was maintained. The Commonwealth Court of Arbitration was, for the second part of the year, mainly engaged in taking evidence on a trade union claim for a basic minimum wage of £10.

The Arts. The shortage of paper almost entirely disappeared but publication of Australian books continued to suffer from Board of Trade regulations made in connection with the U.S. loans. There was a steady stream of distinguished visiting artists from many countries, including the conductors Rafael Kubelik and Otto Klemperer, the Shakespeare Memorial Theatre company from Stratford-on-Avon, the pianists Witold Małcużyński and Aleksander Hellman, and the singers Joan Hammond, Elizabeth Schwarzkopf and Ninon Vallin. (W. Fr.).

Education. (1945) State schools 8,447, pupils 726,440, teachers 31,061; private schools 1,817, pupils 249,024, teachers 11,799; technical schools 114, pupils 110,841, teachers 5,175; business colleges 109, pupils 23,270, teachers 659, universities (1947) 8, students 30,477, professors and lecturers 2,141.

Agriculture. Main crops (in '000 metric tons, 1947-48; 1948-49 in brackets): wheat 5,985 (5,162); oats 738 (540); maize 159 (152); barley 472 (450); sugar cane (raw value) 613 (930); potatoes 501 (569). Livestock (in '000 head, March 1948) sheep 102,559, cattle 13,785; pigs 1,255; horses 1,165. Wool production (in '000 metric tons, greasy basis, 1947-48; 1948-49 in brackets) 460 (490). Food production (in '000 metric tons, 1947-48; 1948-49 in brackets): butter 159·6 (163·9); cheese 42·1 (44 0); meat 962·2 (987·1) of which beef 571·1 (584·7).

Industry. (1948) Manufacturing establishments 37,375; persons employed 848,872. Fuel and power (1948; 1949, six months in brackets): coal (in '000 metric tons) 15,059 (7,114); lignite (in '000 metric tons) 6,792 (3,622); manufactured gas (in million cu. metres) last six months 1948 529 (560); electricity (in million kwh.) 8,741 (4,512). Raw materials (1948; 1949, six months, in brackets) gold (in '000 fine oz.) 890, (448); pig-iron (in '000 metric tons) 1,155 (509); copper (in '000 metric tons) 13 (6); lead (in '000 metric tons) 196 (104); zinc (in '000 metric tons) 83 (41); tin (in '000 metric tons) 2 (1); steel ingots and castings (in '000 metric tons) 1,236 (571). Employment in manufacturing (index 1937=100, 1948; 1949, six months in brackets): 158 (161). New capital investment in Australian manufacturing enterprises totalled £A144 million between Sept. 1945 and June 1948, of which £A41 million was for new enterprises and £A103 million for expansion of established businesses. Industries which were being expanded included textiles and clothing, newsprint, agricultural machinery and implements, glass, plastics, industrial chemicals and building materials. Cement production (in '000 metric tons, 1948; 1949, six months in brackets) 1,004 (527). Building bricks (in millions, 1948; 1949, six months in brackets) 577 (296).

Foreign Trade. Imports: (1948) £A338 million; (1949, six months) £A215 million Exports: (1948) £A407 million; (1949, six months) £A282 million Main imports. machinery, vehicles, piece-goods, other textile manufactures and petroleum. Main exports: wool, wheat flour, dairy products and meats. Main sources of supply in 1948 were: United Kingdom 39%, other British countries 22%, United States 20%. Main destinations of exports in 1948 were: United Kingdom 37%, other British countries 26%, United States 9%

Transport and Communications. Roads (1945): 500,000 mi. Licensed motor vehicles (Dec 1948): cars 669,688, commercial vehicles 389,394. Government railways (1947-48): 27,123 mi ; freight net ton-mi. 6,055 million. Shipping (July 1948): number of merchant vessels of 100 tons and upwards 352, total tonnage 527,647 Air transport (1947): mi flown 33,963,000, passengers flown 1,035,695, cargo carried 18,711 tons, air mail carried 1,101 tons. Telephones (May 1949) lines 730,292, subscribers 1,022,174. Wireless licenses (May 1949) 1,916,310

Finance and Banking. Budget: (1948-49) revenue £A535 million, expenditure £A535 million; (1949-50 est) revenue £A532 million; expenditure £A567 million National debt (Dec. 1948, in brackets Dec. 1947): £A2,829 (2,786) million. Currency circulation (Aug. 1949; in brackets Aug 1948): £A210 (196) million Gold and foreign exchange (Aug 1949, in brackets Aug 1948) 1,231 (863) million U S dollars. Bank deposits (Aug 1949, in brackets Aug. 1948): £A678 (563) million Monetary unit is the Australian pound with an exchange rate of £A1 25 to the pound.

[1] Throughout, the £ is the Australian pound (£A). Exchange rate, £A125 25=£100.

AUSTRALIAN LITERATURE. The Commonwealth Literary fund's fellowships for 1949 reflected current interest in the Australian historical background. Works commissioned by the fund included: a historical work on the pastoral industry by Judith Wright; a novel by John Morrison, set mainly on the Melbourne waterfront; a novel of Australian life and progress and a poem of " epic proportions" telling of the discovery of the Great Southland, both by Rex Ingamells; and the completion by Eric Lowe of the fifth and sixth of his novels covering the story of land settlement from 1812-1938. Much of the work published during the year also went to history for its source. There was, for example, Frank Clune's *Wild Colonial Boys*, Eleanor Dark's *Storm of Time*, and C. B. Christesen's *Australian Heritage* which, like A. A. Phillip's *Australian Muster* (*1946*) sought by literary selections to define the Australian way of life. Two biographies combined literary history with literary criticism. The one, Nettie Palmer's *Fourteen Years*, selections from a journal kept between 1925 and 1939, covered practically everything of significance in Australian and New Zealand writing during those years. The other, *Story Book Only*, came from Hugh McRae, and gave a selection of all he considered worth preserving of his prose writings over some 50 years. Percival Serle's two-volume *Dictionary of National Biography* filled a long-neglected need, both of literary and general reference.

Among novels of note published during the year were: Vance Palmer's *Golconda*, written about a silver-lead mine in Queensland; Lawson Glossop's *Lucky Palmer*, a tale of racing, betting and bad luck; *Pathway to the Sun* by E. V.

Timms, a sequel to his *Forever to Remain*; Ruth Park's *Poor Man's Orange*, which carried forward the story of slum life in a Sydney suburb begun in *Harp in the South*; and Henry G. Lamond's *White Ears the Outlaw*, the story of a dingo. *High Valley*, the novel with which Charmian Clift and George Johnston won the *Sydney Morning Herald* prize for 1948, was also published during 1949. No entry for the *Sydney Morning Herald* novel competition for 1949 was thought to merit a first prize, the best, T. A. G. Hungerford's *Sowers of the Wind*, being awarded second prize. *The Buln-Buln and the Brolga* by Tom Collins; *i.e.*, Joseph Furphy, was published separately for the first time during 1949.

As usual, few short story collections appeared during the year. Outstanding, perhaps, were the annual volume of *Coast to Coast* and Henrietta Drake-Brockman's *Sydney or the Bush. Australian Poetry 1948*, selected by Judith Wright, included 48 poems, 20 of them by women authors. Publications by individual poets included Rosemary Dobson's *In a Convex Mirror* and the *Selected Verse* of Mary Gilmore.

A general anthology of importance was the *Jindyworobak Anthology*, which included prose estimates, criticisms and tributes assembled in celebration of the tenth year of Jindyworobak activity. The main bulk of criticisms came from such journals as *Meanjin Papers*, *Southerly*, the " Red Page " of the *Bulletin* and, until it ceased publication, from the *Australian Observer*. (C. A. BR.)

AUSTRIA. A republic in central Europe. Area: 32,388 sq. mi. Pop.: (March 1938, est.) 6,754,000; (Oct. 1948, est.) 6,953,000. Language: German 98%, other 2% (mainly Slovene in Carinthia). Religion (1939): Roman Catholic 88·27%, Protestant 5·35%, Jewish 1·26% (0·2% in 1945), others 5·12%. Chief towns (pop., June 1948 est.): Vienna (*q.v.*) (cap., 1,730,613); Graz (226,229); Linz (184,336); Salzburg (106,919); Innsbruck (98,561); Klagenfurt (65,950). President of the republic, Dr. Karl Renner; chancellor (prime minister), Leopold Figl (*q.v.*); minister of foreign affairs, Dr. Karl Gruber (*q.v.*). The Austrian government had jurisdiction throughout Austria, with certain limitations regarding matters control over which was reserved to quadripartite decision in the Allied Council for Austria. By Dec. 31, 1949, members of the A.C.A. were: France, Général de Corps d'Armée Emile-Marie Béthouart; United Kingdom, Lieutenant General Sir Alexander Galloway (succeeded from Jan. 1, 1950, by Major General T. J. W. Winterton); U.S., Lieutenant General Geoffrey Keyes; U.S.S.R. (from May 1949), Lieutenant General V. P. Sviridov.

History. A return to normal political life was the salient feature of 1949 in Austria. The growing self-confidence of the coalition government under Chancellor Figl, which continued in office (with some changes) after the general election on Oct. 9, meant that, in practice, less importance than hitherto attached to the continuing failure of the Council of Foreign Ministers to reach agreement on a peace treaty—though government spokesmen did not miss any opportunity of raising their voices in protest against the servitude of the prolonged Allied occupation.

There was, indeed, during the year, a mitigation of Allied control in certain minor respects. From Jan. 1 the United Kingdom handed over to the Austrian authorities full responsibility for the control of the Austro-Italian frontier; in February airfields in the United States zone were restored to the Austrian government for agricultural purposes; a relaxation of the control over goods traffic between the Soviet and the western zones was announced by the Soviet authorities to take effect from May 25; and at a meeting of the Allied council on July 19 notice was given of the relinquishing of certain controls over Austria's posts and telegraphs administration. Finally, the council, without yielding on the principle that Allied approval was necessary for any addition to the three recognized political parties—People's party (Christian Social), Social Democrats and Communists—in fact attempted no interference with the formation of new parties. The new electoral law, indeed, which was approved by the Allied council on June 24, specifically provided that any electoral group that could muster 100 supporters was entitled to put up candidates in the general election.

The meetings of the foreign ministers' deputies were resumed (for the sixth time in three years) on Feb. 9 in London. The Soviet deputy at once brought up again the territorial demands and claims for reparations of Yugoslavia—which provoked the Austrian government into a fresh assertion that Austria would not accept any treaty involving loss of territory or the creation of an autonomous zone for the Slovenes of Carinthia. The Yugoslav delegate, Dr. A. Bebler, was given a hearing, but his " compromise " proposals were not acceptable to the three western powers. A similar deadlock developed over the reparations issue, the compensation to the U.S.S.R. for those German assets to which a claim had been relinquished and the question of compulsory repatriation of displaced persons, etc. When the talks were adjourned on April 8, to enable the governments to be consulted, the western deputies made a significant gesture in abandoning all reparations claims in their zones, subject to the Austrian government assuming an obligation to liquidate all Reich German ownership of the German assets in question.

By the time the Council of Foreign Ministers itself met in Paris (May 23-June 20) the situation had been substantially eased by the abandonment by the Soviet government of support for Yugoslavia's territorial claims. The ministers agreed that, while no reparations should be exacted, Yugoslavia should retain all Austrian property rights and interests within Yugoslavia; that the U.S.S.R. should receive from Austria (1) $150 million in freely convertible currency to be paid within a period of six years, (2) the assets of the Danube Shipping company in Bulgaria, Hungary and Rumania as well as eastern Austria, (3) concession rights to oil production areas equivalent to 60% of Austrian oil production, as also to 60% of all exploration areas in eastern Austria which come in the category of German assets, and that, in return, the U.S.S.R. should relinquish all property, interests or rights held as German assets or war booty, with the exception of the oil and shipping assets previously conceded. But the deputies were unable to compose their differences in the time allotted (by Sept. 1), and the negotiations were taken up again by the ministers in New York on Sept. 23.

In internal politics the Social Democratic party made the



One of the posters of the Österreichische Volkspartei (People's party) used in the general election held on Oct. 9, 1949.

running, with the Communists unable to make any real impression on the emphatically " western " orientation of the country. The party executive tabled a resolution, in May, calling for revision of the Allied Control agreement in order to secure greater freedom of action for parliament and government, total abolition of the censorship, the reduction of occupation forces to token level and the removal of zonal frontiers. Relations with the Austrian People's party became somewhat strained in the middle of the year owing to the latter's reputed electoral bargaining with certain prominent ex-Nazis, and on July 13 a bill for a further amnesty for certain groups of incriminated Nazis, which had been sponsored by the People's party, was defeated in parliament. But the makers of Socialist policy made it clear that they had no intention of breaking up the coalition before the general election; and, in the end, both the principal parties pledged themselves to its continuance, whatever the outcome of the polling.

In the event the election produced little change in the balance of parties. The People's party won 77 seats, the Socialists 67, the Communists 5 and the Independents 16 (*see* also ELECTIONS). This represented a loss of 8 seats by the People's party and 9 by the Socialists. The Communists gained one seat, chiefly on account of the defection of a left-wing Socialist leader, Erwin Scharf, who set up a Left *bloc* shortly before the elections.

In February an occupation costs levy was imposed to defray the outstanding costs for 1948. On March 24 a Four Years' plan for Austrian agriculture was issued, to be operated within the framework of the European Recovery plan. (The outlay was estimated at Sch. 4,900 million, financed largely by the farmers themselves). On May 8 the government announced its programme of financial consolidation to replace the wage-price agreement of Sept. 1948. Trade agreements were made with Italy, Hungary (under U.S. auspices) and Germany. (W. H. CTR.)

Education. (1948-49) Elementary schools 5,016, pupils 829,326 teachers 25,601. Secondary schools (including commercial schools and training colleges) 695, pupils 73,949, teachers 10,301 Universities 4, and institutions of higher education 9, students 31,959

Agriculture. Main crops (in '000 metric tons, 1948; 1949 estimates in brackets). wheat 261 (294), barley 125, oats 225, rye 289 (325); potatoes 2,069. Livestock (in '000 head). cattle (May 1949) 2,125, sheep (Dec. 1948) 454; pigs (May 1949) 1,431, horses (Dec 1948) 284, poultry (Dec. 1948) 4,114

Industry. Insured persons employed (Aug 1949) 1,978,000. Fuel and power (1948; 1949, six months, in brackets) coal (in '000 metric tons) 178 (94), lignite (in '000 metric tons) 3,336 (1,831), natural and manufactured gas (in million cu metres) 388 (215), electricity (in million kwh) 4,213 (1,952). Raw materials (in '000 metric tons 1948; 1949, six months, in brackets) pig iron 613 (423); steel ingots and castings 648 (389). Manufactured goods (1948; 1949, six months, in brackets). cement (in '000 metric tons) 721 (465); leather shoes (in '000 pairs) 2,269.

Foreign Trade. Imports (1948) Sch. 2,603 million, (1949, six months) Sch. 1,996 million. Exports (1948) Sch 1,984 million; (1949, six months) Sch 1,583 million. Main imports coal, cotton, wool and vegetables. Main exports iron and steel products, lumber and paper.

Transport and Communications. Roads (1947). 53,000 mi Licensed motor vehicles (Dec 1948) cars 26,775, commercial vehicles 39,275 Railways (1948) 3,758 mi ; passenger mi. 4,414 million; freight net ton-mi. 3,700 million Telephones (1949) subscribers 219,164. Wireless licenses (1948) 892,058.

Finance and Banking. Budget estimates (in million schillings): (1948) revenue 5,294, expenditure 5,891, (1949) revenue 6,090, expenditure 7,531. Domestic debt (Dec. 1948, in brackets Dec. 1947) Sch 10,671 (12,809) million Currency circulation (Sept 1949; in brackets Sept. 1948): Sch 5,817 (5,132) million. Gold reserve (Sept. 1949, in brackets Sept. 1948). $4 9 (4·8) million Bank deposits (Aug 1949, in brackets Aug. 1948) Sch 5,367 (4,917) million Monetary unit. *schilling* with an exchange rate (Dec. 1949, in brackets Dec. 1948) of Sch. 40 32 (40·30) to the pound and Sch 14 40 (10·14) to the U.S dollar.

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AVIATION, CIVIL. Relatively little expansion occurred in European air transport during 1949. There were few new services and few new types of aircraft were put into service; but business on the air lines generally improved. The Dutch and the Belgian lines (K.L.M. and Sabena*) had a surplus on operations in 1948. Sabena appeared to have made a profit on the work of 1949. K.L.M. had its line to the east closed for two months and diverted for another five months by the closing of Pakistan to its aircraft, and, like the other major operators, showed a loss on the year. Yet almost without exception the European air lines were busier than they had been in 1948. As compared with 1948, passengers increased by 35% and aircraft movements were more than double. At London airport aircraft movements rose from 1,145 in Dec. 1948 to 2,423 in July 1949 and at Northolt, in the same months, the rise was from 1,319 to 4,565. These figures marked the peak of the holiday season but they also marked a big rise on the corresponding period of 1948. The general rise in the volume of traffic in 1949 seemed to have amounted to about 30%.

Competition for the improved traffic remained as keen as ever and was no doubt responsible for the failure in the early part of the year of an Anglo-American attempt to introduce the full freedom of the air for the whole of Europe outside the Russian-controlled areas. The proposal, sponsored by the United Kingdom and the United States, that the existing bilateral air agreements (giving reciprocal rights of operation) should be replaced by multilateral agreements (giving general freedom to operate commercial services) was rejected by a regional conference of the International Civil Aviation organization held at Geneva, Switzerland.

Authority to operate international services had, therefore, still to be sought by individual negotiation and countries were still inclined to make their air agreements depend on the conclusion of satisfactory bargains. This was beginning to be modified by pooling arrangements on certain routes. The United Kingdom had a pooling agreement with France before World War II on the route between London and Paris. A similar arrangement was reported in 1949 between K.L.M., Scandinavian Airlines System†, the Czechoslovak line and one of the Italian companies on certain common routes. The precise terms of these agreements were not disclosed but their effect was expected to restrict some forms of competition as well as lead to some measure of co-operation.

Passenger fares, agreed by operators through their long-established International Air Transport association, remained steady at an average of 7½*d.* a mile on European routes. Throughout the year there was some pressure towards lowering freight rates and towards introducing lower passenger rates on non-regular services. Indirect competition by British charter companies, which were forbidden to operate regular services, had been checked partially by allowing a number of them to become " associates " of British European Airways, operating particular services under agreements specifying frequencies and fares. With the return of aircraft from the Berlin air lift, there was a renewal of the movement towards cheaper fares. One charter company, operating Tudor II and Tudor V aircraft, offered them at rates which, if all seats were filled, would represent 2*d.* to 3*d.* a passenger-mile. As the overheads of air line companies are not supposed to exceed 33% of total costs, this seemed to argue that fares should not be as high as 7½*d.* a mile even if air line companies assumed that, on the average, they could not expect to fill more than 60% of their aircraft capacity.

Great Britain. The two British corporations—Overseas Airways and European Airways—were engaged in re-organizations designed to reduce overheads and to diminish the losses on their operations. In the middle of the year the smaller, third corporation, British South American

* K L M = Koninklijke Luchtvaart Maatschappij (Royal Dutch Air Lines); S A B E N A = Société Anonyme Belge d'Exploitation de la Navigation Aérienne.
† S A S comprises the Swedish A B A (Aktiebolag Aero-transport), the D D.L. (Det Danske Luftfartselskab) and the D.N.L. (Det Norske Luftfartselskap).



The British Overseas Airways Corporation flying boat "London" at Tower Bridge, London, in May 1949. The flying boat landed in the pool of London and was named by the Lord Mayor on May 10.

Airways, was amalgamated with B.O.A.C. This was a direct result of the ban put on passenger-carrying in Tudor I and Tudor IV aircraft after two had been inexplicably lost over the Atlantic. This left B.S.A.A. with an inadequate fleet and with no prospect of acquiring quickly other types of suitable aircraft. B.O.A.C. on the other hand had good aircraft prospects. Not only had it six Stratocruisers on order but it had succeeded in acquiring from Scandinavian Air Services the right to four more which were on order for that company. It had also taken over from the Irish company four additional Constellations; and it was expecting delivery of 22 Canadair Argonauts and 25 Hermes IVs. In the event, the deliveries of the Hermes IVs and the Stratocruisers were much delayed and B.O.A.C. was somewhat handicapped both in handling its own business and in providing for the services which B.S.A.A. had intended to operate.

British European Airways, equipped chiefly with Viking aircraft, had fully recovered from its early difficulties with this type and did good business during 1949. In the preceding financial year its losses were about £2,250,000. Improved traffic, combined with more economical management and maintenance, gave a much better outlook for the financial year ending in March 1950. The signs were that the deficit would be reduced by about £1,000,000. B.O.A.C., which lost £5,250,000 in 1948-49, had not begun to feel the benefit of its new aircraft and was not expecting to show large additional savings on the year 1949-50. This corporation had already made notable economies in administration and reduced its deficit by nearly £2,000,000 in 1948-49.

TABLE I.—UNITED KINGDOM CIVIL AIR TRAFFIC

	All services		Internal services		External services	
	1948	1949	1948	1949	1948	1949
Aircraft mi. flown ('000)	44,206	44,121	5,461	5,934	38,745	38,187
Pass. carried ('000)	713	917	381	450	332	467
Pass.-mi. ('000)	554,536	613,383	57,038	72,199	497,498	541,184
Freight carried (tons)	8,108	14,162	1,113	1,757	6,995	12,405
Freight ('000 ton-mi.)	15,520	18,081	197	329	15,323	17,752
Mail carried (tons)	4,241	5,297	1,123	1,234	3,118	4,063
Mail ('000 ton-mi.)	9,938	10,563	175	205	9,763	10,358

To fill capacity was the chief difficulty of air operators in a period of high fares and many competitors. Evidence of the competition was to be found in the fact that 17 international air companies used London airport regularly during 1949, although the daily passenger totals at that airport varied only between 600 and 1,000 and the daily freight loads between 20 and 25 tons. Standards of operation and the quality of the aircraft in use were becoming important factors in securing traffic as well as in economical running. During 1949 the first signs appeared of a probable British advantage on the air lines serving Europe. These arose from the successful application of the gas turbine to the needs of commercial air transport.

In all other countries except Canada, the gas turbine at its present stage of development had been considered unsuitable for commercial operation, largely on account of its high rate of fuel consumption. In the face of that prejudice, British and Canadian constructors had proceeded with the preparation of air liners using gas turbines both as the motive power for driving airscrews and as the means of providing jet propulsion. The disadvantage in fuel consumption per h.p.-hr. or per lb. thrust was admitted but a counter-argument based on cost per passenger-mile or on the probable return on capital invested was advanced by the aircraft manufacturers. Proof that this argument must be taken seriously

TABLE II.—REVENUE STATISTICS FOR BRITISH AIR LINES (Financial years, April 1-March 31)

	B.O.A.C.		B.E.A.		B.S.A.A.	
	1947-48	1948-49	1947-48	1948-49	1947-48	1948-49
Operating revenue	£12,546,435	£15,155,017	£4,125,536	£5,434,271	£2,086,185	£2,562,203
Operating expense	19,049,601	21,337,431	7,409,818	7,942,544	2,478,274	3,610,742
Operating deficit	6,503,166	6,182,414	3,284,282	2,508,273	392,089	1,048,539
Non-operating expense	586,273	337,719*	289,707	254,812	29,392	84,543
Total deficit	7,091,439	5,844,695	3,593,989	2,763,085	421,481	1,133,082

Source Ministry of Civil Aviation. * Revenue

was contained in the interest shown by United States operators when the first batch of gas turbine aircraft was exhibited during 1949. There were four liners of various sizes using gas turbines to turn their airscrews. These were the Vickers Viscount 40 to 53-seater, the Armstrong Whitworth Apollo 26 to 41-seater, the Handley Page Hermes V 48 to 74-seater and the Miles Marathon 16 to 20-seater. One jet liner, the de Havilland Comet 36-seater appeared in England and one, the Avro Jetliner 36 to 40-seater, in Canada. The designer of the Viscount produced figures to show that it could be operated as cheaply per passenger-mile, up to a maximum practical range of 900 mi., as a comparable piston-engine liner. These figures had yet to be tested in conditions of regular service, but early experience with liners of this type suggested that an additional economic advantage might be derived from the smooth running and relative absence of vibration in the rotary engine which is responsible for a large part of the cost of airframe and instrument maintenance. This fact impressed air line operators, first because of its probable attractiveness to passengers and also because of other economic implications. They were likely to cruise at speeds between 270 and 330 m.p.h. but they did appear to offer new standards of passenger comfort.

The one new liner which promised high speed was the Comet. A number of its long-range test flights were made at a speed of about 500 mi. per hr. To obtain this speed it flew at heights between 36,000 ft. and 40,000 ft. If operators should decide to fly it at a lower level, the cruising speed might be 450 m.p.h. or less. Its value on a highly competitive route like that between Europe and America was so obvious that the appearance of the first Comet caused a stir among operators and aircraft manufacturers alike in the United States. Sixteen Comets were ordered, 14 of them for use by British Overseas Airways.

Some 40 Viscount turbo-prop liners were also ordered for use by the two corporations and these also were thought likely to go into service in 1953. Thus, although both corporations were still losing money on current operations, there was a good prospect of their leading the field in four years' time. Alongside this were indications that B.O.A.C. expected good results from the 140-ton flying-boats which were being built by Saunders-Roe. This type too would use gas turbines to turn its airscrews and was expected to cruise at 380 m.p.h.

These signs of the re-entry of highly efficient British aircraft into the field which had been largely monopolized by United States aircraft led to some speculation during the year as to probable American reaction. Strong pressure was being applied during the latter part of 1949 to prevent the ordering of new British aircraft by United States lines at a time when they were extending their interests in Europe and on routes between Europe and the east. Pan-American Airways, which already had an interest in Turkey, obtained a 36% interest in the Lebanese-owned Middle East Airlines and in view of the proposed absorption of American Overseas Airways was likely to inherit exclusive operating rights in Saudi Arabia. (E. C. SD.)

Canada. Trans-Canada Airlines handled a record volume of traffic on its domestic and overseas routes in 1949, carrying more than 690,000 passengers, an increase of 23% over 1948. Air cargo and air express were up 55%, totalling over 3·6 million ton-mi. Mail was almost double the 1948 total exceeding 3·9 million ton-mi. Financial results were not reported, but in 1948 T.C.A. showed a loss of about $3 million, 60% of which was on its overseas services across the Atlantic and to the Caribbean and 40% on domestic operations. The route from Montreal to Bermuda and Trinidad was flown once a week with Canadair 4's. On Dec. 1, 1949, it was extended to Barbados.

Canadian Pacific Air Lines, which at first had been refused permission to operate international services and then had been awarded the trans-Pacific route, had negotiations under way at the close of the year to extend its services beyond Australia to Auckland, New Zealand. Altogether, there were eight private carriers in Canada authorized to operate scheduled services, three of which were reported to have shown profits. In addition, there were about 150 private operators whose gross revenues exceeded $10,000 a year.

Four Canadian aircraft manufacturing companies produced civil aircraft during 1949: the Canadian Car and Foundry Co. produced the Norseman; de Havilland, the Chipmunk and the Beaver; Candair Ltd., the "4"; and A. V. Roe Canada Ltd., the Avro C-102 jetliner. The last named was the first jet-powered civil transport to fly in the western hemisphere.

TABLE III.—POSTWAR GROWTH OF AVIATION IN CANADA

		Aug. 31, 1946	*Aug. 31, 1949*
Airports licensed		134	376
Aircraft licensed	private	40	634
	commercial	708	1,469
Pilot licences	private	828	2,324
	limited commercial	1,214	873
	commercial	108	78
	transport	778	853
Air traffic controller licences		93	136
Air engineer licences		1,175	1,604

United States. Scheduled air lines of the world, exclusive of the U.S.S.R., operated about 3,800 aircraft of all types at the end of 1949. Approximately three-fourths of all these transports were of U.S. manufacture. Aircraft produced in the United States carried about 90% of the world's scheduled air traffic. Principal U.S. air line transport types in production at the year-end were the four-engined Boeing Stratocruiser, the Lockheed Constellation, the Douglas DC-6 and the twin-engined Consolidated Vultee 240 and Martin 2-0-2.

Throughout the world the DC-3's and DC-4's, largely war surplus equipment, were still the main work horses of the air lines, but in the United States air carriers were fast changing over to the more efficient postwar types of equipment. American Airlines, for example, retired the last of its prewar planes from passenger service during the first half of the year and by December was operating with 50 DC-6's and 74 Convairs.

Scheduled American air carriers operated 1,083 planes on both domestic and international services by the end of 1949 and carried close to two-thirds of the world's air traffic. The year 1949 was the busiest the air lines of the United States had experienced to date. An estimated 16·5 million passengers were carried a total of 8,800 million passenger-mi., representing about a 12% increase over 1948. Scheduled U.S. domestic and international air lines employed 78,500 persons in the autumn of 1949 and provided service to 705

U.S. cities, as well as their overseas points of call. It was estimated that the domestic lines were carrying 43% of the first class rail and air travel market in the U.S. in 1949 as against 39% in 1948 and only 13% in 1945.

The year 1949 witnessed the introduction of air coach travel on a wide scale. Irregular carriers, operating under exemption permits from the Civil Aeronautics board, had proved that lower fares and less emphasis on the usual air travel luxuries would attract many new passengers to air travel; and one by one the major certificated air lines entered the coach field. Pan American World Airways' coach-type service between Puerto Rico and New York, inaugurated in the latter part of 1948, proved very popular during 1949 and the record disclosed little diversion of first class passengers to the new coach service. Capital Airlines' initial coach service between New York and Chicago was an immediate success and by the last week of Dec. 1949 both American Airlines and T.W.A. (Transcontinental and Western Air) had begun low cost ($110) transcontinental coach service between New York and California. Many regarded the wide-spread introduction of coach service during 1949 as a significant step toward ushering-in an era of mass air travel. (*See* Table IV).

TABLE IV.—U.S. SCHEDULED AIR CARRIER OPERATIONS

	1948 (Actual)	*1949* (C.A.A. Estimate)
Revenue passengers carried	14,540,951	16,500,000
Domestic	13,168,095	15,000,000
International	1,372,856	1,500,000
Revenue miles flown	436,270,224	459,691,000
Domestic	338,216,783	352,384,000
International	98,053,441	107,307,000
Revenue passenger-miles flown	7,852,177,000	8,800,000,000
Domestic	5,963,180,000	6,700,000,000
International	1,888,997,000	2,100,000,000
Total passenger-miles flown	8,189,726,000	9,218,000,000
Domestic	6,227,932,000	7,012,000,000
International	1,961,794,000	2,206,000,000
Ton-miles of express carried	71,497,167	80,233,000
Domestic	30,092,833	26,469,000
International	41,404,334	53,764,000
Ton-miles of freight carried	75,472,194	106,095,000
Domestic	71,283,727	97,724,000
International	4,188,467	8,371,000

Substantial improvement in passenger and cargo traffic, increased mail pay and a reduction in unit operating costs through the installation of new postwar equipment and more efficient operations combined to produce the best revenue period since the war for U.S. carriers. Gross revenues increased about 13% over 1948, according to Air Transport association estimates, totalling $764 million in 1949, as compared with $678·9 million in 1948. Gross operating expenses were estimated at $720 million as against $662·6 million in 1948, resulting in a major increase in net operating income to over $44 million for 1949—an impressive improvement for an industry which was operating at a heavy loss only three years before. Of the total 1949 revenues, passenger traffic contributed about 72%, mail 18%, freight, express, excess baggage and other services making up the remaining 10%.

TABLE V.--U.S. AIR CARRIER OPERATING REVENUES AND INCOME.

Revenues:	*1948*	*1949*
Domestic trunk airlines	$413,353,000	$460,000,000
International airlines	249,234,000	283,000,000
Feeder airlines	16,292,000	21,000,000
Total revenues	$678,879,000	$764,000,000
Income:		
Domestic trunk airlines	$ 2,075,000	$25,800,000
International airlines	13,947,000	20,000,000
Feeder airlines	369,000	(—) 1,000,000
Total income	$16,391,000	$44,800,000

While the 14 feeder airlines experienced substantial increases in all categories of traffic except mail during 1949, most of them were too new to be out of their initial developmental period. E. W. Wiggins Airways, for example, operating in New England, and Central Airlines in Texas and Oklahoma did not begin operations until Sept. 1949. Helicopter Air service, serving the Chicago area, began operations Aug. 20, 1949. It was the second helicopter mail service to be started, following Los Angeles Airways which began in May 1947.



The de Havilland Comet, the world's first jet airliner, which flew for the first time on July 27 1949. On Oct. 25 it flew from London to Castel Benito, Tripoli, and back in 8¾ hrs. at an average speed of nearly 450 m.p.h.

The Civil Aeronautics board finally awarded five-year temporary all-cargo operating certificates in Aug. 1949 to Slick Airways, Flying Tigers and U.S. Airlines, culminating a three and a half years' battle for recognition on the part of these "irregulars" against determined opposition from the major certificated carriers.

In spite of four serious accidents in the last half of the year, the U.S. scheduled airlines set a new safety record in 1949, operating domestically and on routes around the globe at an over-all average rate of 1·0 passenger fatality per 100 million passenger-mi. On international routes U.S. carriers had a perfect safety record, flying 2,100 million passenger-mi. during the year. On domestic routes, the safety record was the same as in 1948, namely 1·3 fatalities per 100 million passenger-mi. but the airlines flew over 1,000 million more passenger-mi. than during the year before.

There were an estimated 510,000 certificated pilots in the United States at year's end, as against 491,306 the preceding year. Of these, 9,678 were women pilots. Some 1,800 women were rated as air traffic control operators, about one-fifth of the total in that branch. The number of new student and private pilot certificates issued showed a sharp decrease. Partly due to a revision of its records, the Civil Aeronautics administration reported a decrease in the number of civil aircraft registered: 92,700 at the end of the year. The number of airports in operation remained about 6,100.

As a result of the growing use of landing and air navigation aids installed on the Federal airways by the C.A.A., the airlines continued to increase the regularity of their scheduled operations without reducing safety standards. Instrument landing systems were in daily use at 87 points in the continental U.S. and at 2 points in Alaska. Static-free very high frequency radio ranges were installed at 370 points by the end of the year. The Collier trophy was awarded to the Radio Technical Commission for Aeronautics for its new air traffic control plan, which would not become effective, however, for several years. Under the Federal Aid Airport programme, the C.A.A. made grants totalling some $99 million for improvements at 783 different airports.

Meanwhile, the Civil Aeronautics board was wrestling with approximately 1,100 undecided proceedings which had piled up on its calendar, including new route applications, proposed mergers, interchange agreements, foreign permits, mail rate decisions and other matters affecting the economic future of the airline industry.

South America. In Argentina one of the most imposing airports in the world, the Pistarini International airport located 15 mi. from Buenos Aires, was opened to traffic on Oct. 27, 1949. The four Argentine air lines, however, reported heavy losses ever since the government had taken them over a few years previously. F.A.M.A., the principal international air line which had been expected to begin operations between Buenos Aires and New York in 1949, was planning to do so during 1950.

In Brazil, Panair do Brasil maintained four round trips a week to Europe, Africa and the middle east with Constellations. Together with Cruzeiro do Sul it operated seven round trips weekly to Uruguay, Argentina and Paraguay. These two carriers and Aerovias Brasil accounted for over three-fourths of Brazil's air line traffic.

At La Paz, Bolivia, which boasts the highest airport in the world (altitude 13,398 ft.), Braniff Airways operated DC-4's using jet-assisted take-off (Jato) and Panagra was planning to extend similar Jato DC-4 operations into other high-altitude airports along the Andean chain, notably at Cochabamba, Bolivia, and Arequipa, Peru.

Pan American World Airways' Latin American division reported a record year for 1949, carrying 709,000 revenue passengers a total of 586 million passenger-mi., compared with 683,600 passengers and 548 million passenger-mi. in 1948. Cargo totalled 16,650 tons in 1949, compared with 14,620 tons the preceding year. The Latin American division completed four and a half years of accident-free operation on Dec. 31, 1949, during which about 2,500 million passenger-mi. were flown without injury to passengers or crew. (*See* also AIRCRAFT MANUFACTURE; AIRPORTS; AIR RACES AND RECORDS; JET PROPULSION AND GAS TURBINES) (J. P. V. Z.)

AVIATION, MILITARY: *see* AIR FORCES OF THE WORLD.

AZORES, THE: *see* PORTUGAL.

BACTERIOLOGY. The Society of American Bacteriologists held its 49th annual convention at Cincinnati, Ohio, in May 1949 with a full programme including 217 scientific papers. A significant step was taken by a committee of the society with a view to improving the professional status of all bacteriologists.

A typical study in the field of bacterial physiology was presented by S. J. Ajl and C. H. Werkman of the Iowa Agricultural Experiment station who extended knowledge of the new concept that heterotrophic metabolism utilized CO_2 in synthesis. A related paper by S. M. Martin and P. W. Wilson of the University of Wisconsin reported the utilization of CO_2 by *Aspergillus niger*.

Among the reports on agricultural bacteriology was a study of nitrogen fixing bacteria (*Rhizobium*) from *Caragana arborescens* by K. F. Gregory and O. N. Allen of the University of Wisconsin.

A representative research in the field of industrial microbiology was reported by D. G. Reihard and J. C. Garey of the Pennsylvania State college, who studied the development of free amino acids in cheese during the curing period.

A paper on medical bacteriology was that by N. B. Williams and M. A. Judson of the University of Pennsylvania School of Dentistry, who found enterococci in apical abcesses of teeth and demonstrated *S. fæcalis*, *S. liquefaciens*, and *S. zymogenes* in the normal mouth of many persons.

All the local branches of the Society of American Bacteriologists held meetings during the year and researches in all fields were described. One interesting study made at the U.S. Public Health Service, Communicable Disease centre, Atlanta, Georgia, dealt with the *in vitro* virulence test for *C. diphtheriæ*. The test was made in a special culture medium and would eventually eliminate the necessity of using animals in this important laboratory procedure. At a meeting of the south western branch, held at Tuscaloosa, Alabama, a film showing a simple method for the prolonged preservation of bacteria by desiccation *in vacuo* was shown for the first time. The film, with sound effects and spoken narrative, was to be made available on loan from the Communicable Disease centre, U.S.P.H.S., Atlanta, Georgia. Many valuable new films and other visual aids to education in bacteriology were also made available during the year by the Society of American Bacteriologists.

A symposium on Brucellosis was held at Bethesda, Maryland, in September and papers were read on every important aspect of the subject by a panel of experts.

On Oct. 28 and 29 the New York Academy of Science sponsored a conference on the mechanism and evaluation of antiseptics. The first session was devoted to antibiotics, the second to surface-active anti-microbial agents and the third dealt with the use of miscellaneous chemicals, especially halogens, as antiseptics. The value of ethyl alcohol as a general disinfectant, long regarded as insignificant, was re-emphasized during this meeting. It appeared that 2% solutions of iodine in alcohol might be one of the most useful disinfectants for external application.

Much interest was also shown in new surface-active, synthetic disinfectant-detergents, a great many of which appeared on the market and in the trade during the year. Special interest centred around the quaternary ammonium compounds, especially in their mode of action and in inactivators for them, to be used in differentiating between their bacteriocidal action and their bacteriostatic action.

In November the American Type Culture collection published a new catalogue, the first since 1938. In the new edition 2,975 strains of organisms were listed, of which 49% were bacteria, 28% higher fungi and 16% yeast. Also included were algae, protozoa and bacteriophages. Viruses and rickettsiae were to be handled separately and listed in a separate catalogue. (M. Fr.)

BADMINTON. The international Badminton championship was won by Malaya who defeated the United States 6—3 at Glasgow and Denmark 8—1 at Preston, Lancashire, in the inter-zone ties. Ten countries competed and England, after victories over Scotland and France, lost to Denmark in the European zone final. In other international matches England beat Scotland 7—2 and Ireland 5—4, and lost to Sweden and Malaya. Scotland also lost to Ireland and U.S.A. The All-England championships were played at Harringay arena, London, when titles were won by David Freeman (U.S.A.); Miss Aase Jacobsen (Denmark); Ooi Teik Hock and Teoh Seng Khoon (Malaya); Mrs. H. S. Uber and Miss Q. M. Allen (England); and Clinton Stephens and Mrs. Stephens (U.S.A.). Cheshire won the inter-county championship, beating Surrey in the final. Thirty-three counties took part.

Some 60 open tournaments were held in various parts of Great Britain. 1,900 clubs were affiliated to the Badminton association of England and 600 to the Scottish Badminton union. (H. A. E. S.)

United States. Marten Mendez of San Diego, California, captured the men's singles honours in the 1949 national badminton championships at Chicago, Illinois, when he defeated Joseph Alston, also of San Diego, 15—8, 12—15, 15—5, while Ethel Marshall, Buffalo, New York, won the women's laurels for the third successive season. Miss Marshall routed Marianna Gott of West Los Angeles, California, 11—2, 11—8, in the title round.

Wynn Rogers of Arcadia, California, teamed with Barney McCay of Alhambra, California, to win the men's doubles. Thelma Scovil and Janet Wright, both of San Francisco, California, again repeated their previous success in the women's doubles and Rogers triumphed in the mixed doubles with Mrs. Loma Smith of Arcadia. (T. V. H.)

BAHAMAS. British colony consisting of an archipelago outside the Gulf of Mexico and off the coast of Florida. Area: 4,404 sq. mi. Pop. (1948 est.): *c.* 76,620. Capital: Nassau. Governor, Sir George Sandford.

Rapid progress was made in the construction of Butlin's vacation village at West End, Grand Bahama. Announcement was made of negotiations with the United States for passage over the colony of rockets from Florida on the first 500 mi. leg of a Caribbean guided missile range. A general election in the summer resulted in 13 new members being elected to the House of Assembly. After further re-examination it was decided the sponge beds were not yet sufficiently restored to justify re-opening.

Finance and Trade. The legal tender is British sterling currency, though U.S. currency is also generally accepted. Budget (1948): revenue £1,360,226; expenditure £1,317,621. Foreign trade (1948): imports £4,720,151; exports (visible) £551,920. Tomatoes, lumber and crawfish were the principal exports in 1948, but the economy of the colony is primarily dependent on the tourist industry. (J. A. Hu.)

BAHREIN ISLANDS: *see* Arabia; British Empire.

BAKERY PRODUCTS: *see* Bread and Bakery Products.

BALANCE OF PAYMENTS. Events of 1949 justified fears expressed in the previous year that Great Britain might not succeed in maintaining the improvement in her balance of payments achieved in 1948. During the second and third quarters of the year, much of the ground gained during 1948 was lost, nor could it be fully recovered in the last quarter. This setback was not immediately apparent; on the contrary, the total deficit, amounting to £10 million for the first half of the year (or £20 million at the annual rate) represented less than one-fifth of the £110 million shortfall for 1948. But this seeming improvement concealed a renewed increase in the dollar deficit, its most important and at the same time least tractable component. This adverse development was largely due to a marked decline in business activity in the U.S. and in the dollar area in general. Thus, according to estimates of the U.S. Federal Reserve board, the volume of industrial production in the U.S. had, by Oct. 1949, contracted by more than one-fifth (22%) compared with its maximum of Oct.- Nov. 1948. As a result, U.S. imports dropped appreciably and the dollar income of the exporting countries shrank correspondingly. The dollar shortage, manifest throughout the world after World War II, grew worse again, after some improvement in 1948. Most countries could only meet their commitments in that currency by further depleting such meagre gold and hard currency reserves as they could muster. In Great Britain's case, in particular, a heavy outflow of gold and dollars reduced these reserves to far below the safety level, generally set at £500 million Ultimately, in an attempt to stop the heavy drain, the pound was devalued (Sept. 18), a measure followed by the devaluation of many other currencies.*

Table I.—United Kingdom Balance of Payments 1947 to 1949.

Current Account

(£ million)

	1938	1947	1948	1949†
Payments				
1. Imports (f o b. prices)	835	1,541	1,768	955
2. Government expenditure abroad	16	207	96	79
3. Shipping	80	181	189	97
4. Interest, profits and dividends	30	106	108	55
5. Films (net)	7	14	10	3
6. Travel	40	80	77	34
7. Total payments	1,008	2,129	2,248	1,223
Receipts				
8. Exports and re-exports (f o.b.)	533	1,100	1,555	907
9. Shipping	100	205	246	137
10. Interest, profits and dividends	205	153	174	83
11. Travel	28	21	33	19
12. Other (net)	72	20	130	67
13. Total receipts	938	1,499	2,138	1,213
14. Surplus (+) or Deficit (—) on current account	—70	—630	—110	—10
Of which: Visible trade	—302	—441	—213	—48
Invisible	+232	—189	+103	+38

† Provisional figures for first six months

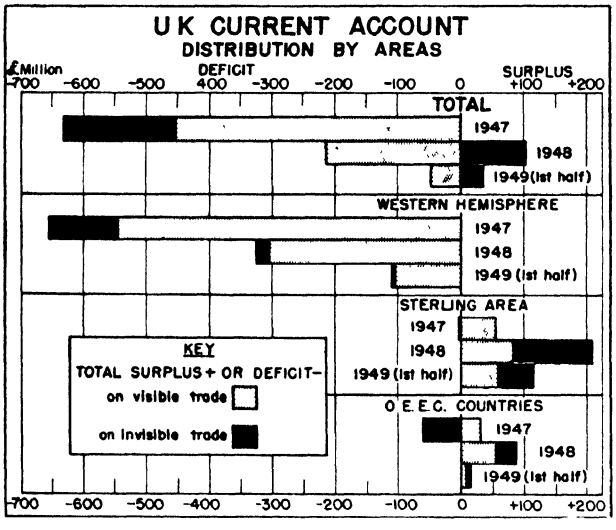
Current Account. At first sight, the figures for the first half of 1949 (released in October) hardly reflected the onset of a new crisis. Excepting the second half of 1948, when there had actually been a surplus of £45 million, the results were the best recorded since the end of World War II. Total receipts from abroad had risen by 13·4% over the period; total outward payments had increased by only 8%. Exports

* Great Britain's gold and dollar holdings were as follows. Dec. 31, 1948; £457 million; June 30, 406; Sept 30, 351 (after a low of 330 on Sept. 18); by Dec. 31, 1949, they had improved to 416 All figures at pre-devaluation rates.

of merchandise had expanded by 16·6%, against only 6·3% for imports. Altogether, exports had made a very satisfactory showing, although their rate of expansion had slowed down. But analysed by destinations, their dollar content had shrunk by some 26% compared with the second half of 1948.

Invisible Trade. Income from invisible transactions had, on balance, contracted by 26% over the period. (*See* Table II.)

Invisibles would have made a better showing but for the heavy increase in government payments abroad of which fully £112 million were military expenditure.* Receipts from all commercial transactions combined improved appreciably (+17·5%). The gradual replacement of merchant tonnage lost during World War II showed in a further striking advance of shipping receipts (+42%). The expansion of earning assets more than outweighed the progressive drop in freight rates after 1948. The omnibus item " Other receipts," containing the overseas income of British oil and insurance companies, royalties, bankers' and merchants' commissions, etc., less payments made under these headings, rose only by a small amount after its remarkable expansion in 1948. Not unexpectedly, income from interest, profits and dividends dropped (by about 15%). Taking the 30 months from Jan. 1, 1946, to June 30, 1949, the progressive decline of Great Britain's " independent income " was unmistakable, reflecting further sales of foreign assets during the first postwar years, after the large-scale realizations of the war period.



On the debit side, the excess of British tourist expenditure abroad over expenditure of foreign tourists in Britain was appreciably reduced. The figures for the first half of the year did not, however, include the results of the main tourist season.

In the final outcome, the total deficit of the balance of payments on current account at the end of June 1949 represented, at £10 million, less than 1% of the balance sheet total. Had currencies been freely convertible in gold and dollars, there would thus have been no " balance of payments problem " for Britain, for it would then have been possible to offset practically the whole of payments currently owed by Britain, a negligible balance excepted, by sums currently received from her debtors. But after 1939, such compensation had in actual fact been quite impossible. The final deficit was a mere book entry, the result of a purely nominal compensation between certain positive and negative items. (*See* Table III.)

As the surplus of £155 million from countries outside the dollar area could not be used to settle the dollar deficit amounting to £135 million, the latter figure (not the £10 million of the total deficit) measured the real size of the gap in the balance of payments. On an annual basis, the dollar deficit was still equivalent to £270 million, against £280 million for 1948, and £230 million for the last six months of that year. Compared with that last figure, the best achieved after the end of World War II, it had, since the beginning of 1949, increased by over one-sixth (+17·3%).

TABLE II.—BALANCE OF INVISIBLE TRADE OF GREAT BRITAIN
(£ million)

	1948	1949 (First half, at annual rate)
Net balances of income from (+) or expenditure on (—)		
Shipping	+57	+80
Interest, profits and dividends	+66	+56
Films	—10	—6
Travel	—44	—30
Other receipts	+130	+134
	+199	+234
Government expenditure abroad	—96	—158
Net balance	+103	+76

Capital Account. The current account thus analysed does not, however, disclose the full story. It records only annually recurring expenditure and receipts (*e.g.*, merchandise exports and freight receipts as a credit; expenditure on films and foreign travel as a debit). But there are numerous other payments and receipts, recurring and non-recurring, which constitute capital transactions and as such are recorded in a separate capital account. This record shows the movement of Great Britain's assets in, and liabilities to, foreign countries: loans granted or contracted; redemption of debts owing or owed; purchases of gold, etc. Many transactions arise out of commitments assumed by Great Britain or by foreign countries in past years, others represent new commitments. In Britain's case, these capital transactions are particularly important because of its role as banker to the whole sterling area. Finally, the debit balance of the current account appears as a balancing item on capital account inasmuch as it must be settled by a capital transaction (generally by shipping gold or by borrowing funds from abroad). Gold shipments (or dollar payments tantamount to gold shipments) arise in settlements with the dollar area, Belgium, Switzerland, Persia, etc. With the sterling area, a debit balance on capital account entails an increase in the sterling debt owed by Great Britain. But conversely, a credit balance, under present conditions, merely involves a write-off from the heavy sterling debt incurred by Britain since 1939.

TABLE III.—THE UNITED KINGDOM BALANCE OF PAYMENTS
CURRENT ACCOUNT
(£ million)

Surplus		*Deficit*	
From O.E.E.C. countries	15	With the dollar area	135
From the sterling area	115	With " other countries "	30
From " other western hemisphere "	25		
Balance (deficit)	10		
	165		165

For the first half of 1949, the net gold and dollar deficit with the dollar area, on capital account, amounted to £239 million (1948, full year, £423 million; last six months, £169 million). Compared with the second half of 1948, the rate of the deficit had thus increased by 41·4%. The adverse movement had gained in speed during the second quarter of 1949 when the outflow totalled £157 million, against £82 million for the first quarter.* Payments made for United Kingdom account, at £153 million, ran at practically the same rate as for 1948, but those made on behalf of the rest of the sterling area more than trebled (£43 million for six

* £55 million of this represented, however, special payments to India and Pakistan, upon the termination of British rule.

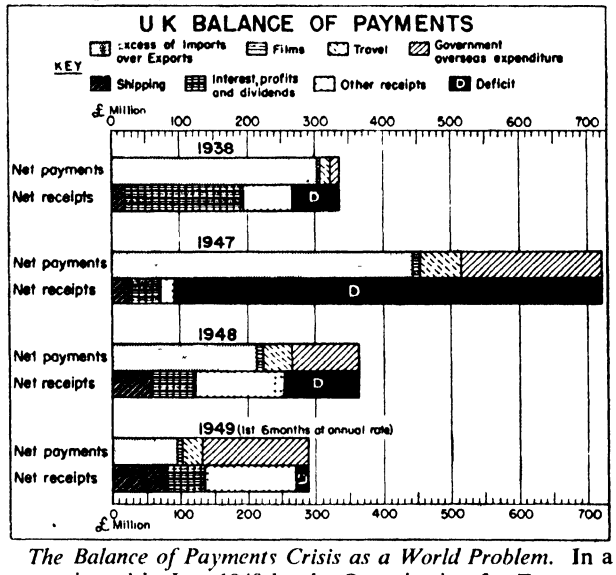
* £133 million during the third quarter 1949.

months, against £26 million for the full year 1948). The major part of these gold and dollar losses must be ascribed to increased imports of American goods by the other sterling area countries (India, and also South Africa, despite some reduction, as compared with 1948). In part, this development might have been due to defects in the exchange control. But too rapid a release of sterling balances, for political or military reasons, seemed to have been the decisive factor. Such funds were either converted into dollars or used to pay for goods purchased in Great Britain. (Such British exports were thus settled through the capital account by a mere book-keeping entry. Hence the expression "unrequited exports" used to designate these transactions. While these exports made an important contribution to employment in Great Britain and to the maintenance of British goodwill in the sterling area, they frequently absorbed resources which might have been used for the production of "dollar" exports.)

Against this outflow of gold and exchange reserves had to be set the reduction, resulting from this release, in the United Kingdom's external indebtedness (£125 million) and a net increase in its external capital assets both inside and outside the sterling area (£104 million). The remaining debit balance of £10 million was equal to the deficit on current account (see above). As with the current account and for the same reasons, the gold and dollar deficit was decisive for an assessment of the real position on capital account.

Sterling Balances. At the end of 1949, the future treatment of the sterling balances promised to become a major issue. For economic and political reasons alike, the creditors—among which were such undeveloped countries as India, Pakistan, Egypt, Iraq, etc., but also a number of countries outside the sterling area—could at best be expected to accept a very partial write-off of their claims, even though these might, in many cases, have arisen out of defence expenditure undertaken by the United Kingdom on their behalf during World War II. Yet, the acceleration of their drawings (£130 million in 1947; £213 million in 1948; £125 million during the first half of 1949) placed an excessive burden on the United Kingdom's straitened resources. This problem became even more urgent with the approaching end of the European Recovery programme: indeed, E.R.P. aid had, during the first half of 1949, covered 69% of the total gold and dollar outflow (£166 million out of £239 million). A long term funding agreement limiting both the conversion of sterling balances into dollars and the volume of unrequited exports would thus be of great help.

Interim Measures. Pending the conclusion of such an agreement, and with the drop in dollar receipts from direct exports, only two means—both short-term expedients—were available to deal with the dollar deficit: a further reduction of imports from the dollar area; and a devaluation of the pound in order to stimulate exports to the dollar area. The cut in imports was decided upon in July, after the onset of the mid-year crisis, and was to have produced a saving of $400 million (then £100 million) over a full year, but as previous cuts had already reduced these imports to the barest essentials, the possibility of further savings on that score appeared in fact doubtful, nor could they in any case be effective much before the middle of 1950. Thus, only devaluation remained to stop the dollar drain at short notice. It achieved this immediate purpose and £21 million worth of gold and dollars (at the old rate of exchange) returned to the Exchange Equalization account during the last fortnight of September and the reflux continued thereafter, if at a slower pace. But the long term advantages of devaluation were more doubtful: resources of manpower and productive equipment were fully employed; British economy showed distinct signs of inflation, and devaluation was an inflationary measure; finally, the receptivity of the American market for increased imports appeared very doubtful indeed. During the last weeks of 1949, it was not yet certain whether dollar receipts could be maintained at pre-devaluation level, let alone increased. (At the beginning of Jan. 1950, the chancellor of the exchequer announced that the total balance of payments deficit for 1949 would "not be far from that of 1948 in which there was an overall deficit of £110 million." But the amount of the dollar deficit for 1949 was not yet known. The rate at which it was running was higher at the end than at the beginning of 1949.)



The Balance of Payments Crisis as a World Problem. In a report issued in Jan. 1949 by the Organization for European Economic Co-operation, official admission had come for the first time that despite American aid and whatever their efforts, the O.E.E.C. countries, upon termination of the European Recovery programme (June 30, 1952, at the latest), would still show a dollar deficit of about $3,000 million. At the end of 1949, it was practically certain that Great Britain, singly or in conjunction with her O.E.E.C. partners, would be unable to equilibrate her dollar balance by that date without outside help. There was growing recognition that the dollar shortage had to be considered as a long term factor in the balance of payments position, resulting from important structural changes that had taken place in world economy after 1920. To the persistent deficits of Great Britain and most other countries corresponded as persistent a surplus in the U.S. balance of payments. Both were abnormal in volume and duration. In Europe at any rate, it was no longer doubted that the U.S., to redress this situation, would have to make radical changes in its tariff policy, in order to replace by an import surplus the long standing export surplus in its own balance of payments.

Despite growing recognition of this necessity in the U.S. —as evidenced by President Truman's and Dean Acheson's speeches in November—the slowness of progress in this direction caused grave fears among European observers. Many also held that neither the recommended resumption of American private lending to foreign countries nor the development of backward areas—point four in President Truman's inaugural address of Jan. 1949—would be an adequate substitute for a change in tariff policy, the factors of volume and time being decisive. At the end of 1949, Great Britain's and western Europe's prospects for 1952 and after appeared bleak indeed. With the approaching end of E.R.P. and failing a change in American economic policy, the balance of payments crisis might in the early 1950s cause a general economic crisis. (R. P. S.)

BALLET: *see* DANCE.

BANK FOR INTERNATIONAL SETTLEMENTS. Founded in Basle, in 1930, this institution was established by the main European issue banks and commercial banks for the purpose, first, of handling the transfer of German reparations under the 1930 Hague agreement (Young Plan) and, secondly, of acting as banker to these issue banks. After 1945, its activity was mainly devoted to this second function. After 1947 it also acted as central clearing agent under multilateral monetary compensation schemes (extended in Oct. 1948 to all members of the Organization for European Economic Co-operation).

BANK FOR INTERNATIONAL SETTLEMENTS

	(Million Swiss gold francs, pre-1936 value) March 31, 1949	March 31, 1948
Assets		
Gold in bar and coins	150·7	122·4
Cash and sight funds	39·2	42·9
Funds held in re-discountable bills and acceptances	233·7	98·2
Miscellaneous assets	1·6	1 2
Funds invested in Germany	297·2	291·2
	722·4	555 9
Liabilities		
Short-term and sight deposits (gold)	21·6	17·7
Ditto (various currencies)	220·2	57·5
Long-term deposits	228 9	228·9
Miscellaneous provisions	106·8	106·9
Reserves (legal and general)	19·9	19 9
Paid-up capital	125·0	125 0
	722 4	555·9
Earmarked gold (not included above)	169 5	47·3

During the financial year 1948-49, customers' deposits in gold and various currencies increased to almost four times the amount of the previous year thus enabling the bank to expand correspondingly its productive lendings and investments. In 1948-49, also, the bank's turnover was two and a half times as large as in 1947-48 but the net profit, at Swiss (gold) Frs. 5,101,856 against 9,541,434, was appreciably lower. As had been the case since 1944-45, the last year for which a dividend was paid, the whole profit was placed to reserve.

The bank's cautious dividend policy was accounted for by the fact that a large proportion of its assets continued to be invested in Germany in execution of the Hague agreements of 1930. In 1949 both the legal position and the real value of these assets remained undefined. The bank's liabilities to reparation creditors represented roughly 90% of its German assets and, to the extent of some 55%, were covered by its open reserves.

At the opening of the financial year 1949-50, Maurice Frère, governor of the National Bank of Belgium, continued as chairman of the bank with Sir Otto Niemeyer, a director of the Bank of England, as vice chairman. Roger Auboin (France) continued as general manager. The highly informative *Annual Report* of the bank was again published under the supervision of Dr. Per Jacobsson, economic adviser to the bank. (R. F. S.)

BANKING. Inflationary stresses, together with the measures taken by the various governments to contain them, dominated the banking scene in Great Britain, the Commonwealth, Europe and the middle east in 1949. In most of these areas, internal financial conditions were more stable than in 1948, in large measure owing to the widespread realization that a more vigorous application of dis-inflationary proposals drawn up in earlier years was needed to combat the new difficulties that arose in the external payments field from the change in the world economic climate. The dislocation of international trade caused by the divergence of sterling and dollar prices in the period before the world currency re-alignment had little direct effect on banking affairs in most countries. After the currency re-alignment bankers in many of the countries that had devalued their currencies were called upon to tighten credit restrictions. This was in connection with official programmes to combat the inflationary forces that were expected to be released by the exchange adjustment. Otherwise the alteration in currency exchange rates produced few important changes in the banking situation in these areas before the year closed.

Great Britain. The year opened in Great Britain with a decisive down-turn in the volume of bank money, explained partly by seasonal factors and partly by the pressures exerted by the government's money policy. The budget proposals introduced in April turned out to be less dis-inflationary in their effect than Sir Stafford Cripps, the chancellor of the exchequer, had intended and bank deposits showed a tendency during the summer and autumn months to climb at a pace that could not be wholly explained by seasonal considerations. The table giving the out-turn for 1949 up to October of the 11 London clearing banks (which together accounted for about 95% of all commercial banking resources in Britain) showed that at that time the total of bank deposits was virtually as high as a year before.

ELEVEN LONDON CLEARING BANKS

(£ million)

	Oct 1947	Oct. 1948	Oct 1949
Deposits	5,690	6,040	6,049 6
"True" deposits	5,510	5,855	5,867·9
Cash	468	485	498 7
Call money	466	497	555·7
Bill holdings	825	802	1,162·1
Treasury deposit receipts	1,147	1,313	744 0
Investments	1,500	1,475	1,516 8
Advances	1,176	1,355	1,465 5
Acceptances, etc.	238	243	260 8

Examination of the banks' asset figures given in the table reveals that although total bank resources showed little net change in 1949, there were important changes in the way in which these resources were employed. In the first place, there was a considerable drop in the volume of bank lending to the public sector of the economy and an equally large expansion in lending to the private sector. The fact that cash, call money, holdings of bills and treasury deposit receipts together showed a substantial net decline during the year was due to a reduction in the volume of bank financing of the government's floating debt. The rise in bank loans reflected the provision of additional finance by the banks to industry and commerce. Further, as there was no reason to suppose that the government was a net seller of medium and longer-dated government securities during the year, the presumption was that the increase recorded in the bank's investments also indicated purchases from the general public and therefore an indirect method of extending additional finance to the private sector of the economy.

An original intention of the Cripps disinflation policy was to repay the government debt held by the banks with the aid of a budget surplus and so place these institutions in a position to furnish without increasing total lendings, the additional monetary resources needed by industry to finance reconstruction and development. This intention appeared to have been largely realized in 1949 so far as the "switch" from official to private lending by the banks was concerned. But in the event the contraction in bank lending to the government was due more to an unexpected accumulation of sterling resources in the hands of the government departments caused by the development of a substantial overall trade gap in the middle of the year than to an excess of government receipts over payments on budget account.

The second major change in the deployment of British bank resources in 1949 was the result of the official decision to reduce the amount of government borrowing on the treasury deposit receipts in favour of increased borrowing on treasury bills. This development was welcomed, the banking community in general having long argued that the T.D.R., introduced during World War II as a means of drawing finance in the required amounts from the banking system quickly and conveniently, was not suited to peacetime conditions.

The increasing difficulties experienced by industry in raising capital on the new issue market kept the demand for bank finance on industrial account at a high level during the year. The banks continued to restrict lending in accordance with the directive given to them by the government earlier in the year. But despite the rise in rates of interest on government securities during the year, no general increase was made in rates of interest charged for bank loans. Small adjustments were made, however, in rates quoted for discounting commercial bills, consequent upon the increased risks attaching to this type of paper after the change from sellers' to buyers' market conditions in world markets.

During the year it was announced that two important Scottish banks, the Clydesdale bank and the North of Scotland bank, were to be merged from 1950. The spheres of influence of the two banks, both of which had been owned by the Midland bank for over 25 years, were complementary so that no great structural changes were involved.

The Commonwealth. One of the most interesting developments in banking affairs in the Commonwealth countries was the dismissal by the Privy Council of the United Kingdom of the appeals made by the Australian government and several state governments of Australia against an earlier ruling by the High Court of Australia that vital operative sections of the Australian government's act nationalizing the trading banks of that country were *ultra vires*. In the absence of a clear statement by the Australian government, however, it was impossible to say whether the threat of nationalization of the trading banks had in consequence been permanently or temporarily removed. The resources of the Australian banks continued to expand during the year, the deposits of the nine trading banks rising to £A795·0 million in July as compared with £A698 6 million a year before. The movement was due in part to the influx of capital from overseas and in part to inflationary pressures generated by the high level of export earnings and intense activity in the capital development field, the latter being itself to some extent the result of the inflow of overseas capital for investment purposes. Most of the additional resources were devoted by the banks to strengthening " special accounts " with the Commonwealth bank. Loans to private industry were, however, increased by about £A40 million during the year.

In New Zealand the exchange revaluation of July 1948 helped to restrain inflation previously caused by expanding export incomes and the steady rise in the prices of imported goods. But there was a further modest addition to the volume of bank resources in the year to mid-1949.

The money-goods gap caused by the high level of capital development and the government's efforts to stimulate exports to the United States produced a further expansion in the volume of bank activity in money terms in Canada during 1949. The active note circulation of the Bank of Canada in 1949 rose up to August by 2% to $1,085 million. Over the same period, the deposits of the chartered banks showed an increase of $582 million to $8,188 million. About one-half of these additional resources were utilized to expand the banks' holdings of government securities. Most of the balance was represented by increased loans to industry and commerce.

The deterioration in South Africa's payments position in progress through the greater part of the year, and the steps taken by the government to deal with it, had sharp repercussions on the country's banking situation. At the beginning of 1949, the banks were asked, as a matter of public policy, to contract credit facilities for non-productive purposes generally and to restrict advances in the case of less essential or over-developed industries. After the devaluation of the South African pound in terms of the U.S. dollar, the government embarked on a positive policy of " dearer money." The bank rate was raised, causing the commercial banks to make corresponding adjustments in rates for deposits, loans and discounts. The drain on the cash resources of the banks caused mostly by payments on sterling account and by the deposit of commercial bank funds with the National Finance corporation, set up during the year to channel " idle funds " into desirable capital outlays, caused the authorities to adjust the minimum reserve which the South African commercial banks were required to maintain with the Reserve bank from 10 to 7% in the autumn. In the twelve months to July 1949, these reserves dropped by £SA106·6 million to £SA44·9 million. Over the same period, deposits declined from £SA395 million to £SA310·9 million.

A feature of the Indian banking year was the passing of new legislation to bring the commercial banks under closer official supervision, with the particular object of limiting the extent to which such banks could mismanage their affairs. Inflationary forces were at work during the greater part of the year, but owing to the relief provided by the inflow of unrequited imports from the United Kingdom the net expansion in the volume of bank money was relatively moderate.

In Pakistan, further important steps were taken to strengthen the banking structure in order to make it easier to carry out the government's new economic development programme.

The Ceylon authorities pressed forward with plans for the establishment of a central bank. In this connection a proposal that the dominion should retain part of its net earning of dollars, instead of contributing them to the sterling area pool, for the purpose of starting a gold and dollar reserve was approved by the British authorities.

The Middle East. The new Israeli government carried out a general overhaul of banking arrangements following the decision to make the Anglo-Palestine bank the central bank of the new state which had been taken towards the close of 1948. In the neighbouring kingdom of the Jordan steps were taken to establish a state bank and to provide for the issue of a separate Jordanian currency.

Europe. The outstanding development in banking affairs in France, Italy, Belgium and Western Germany in 1949 was the partial relaxation of the credit restrictions that had been imposed in 1947 and 1948 to counter inflationary pressures. In all these countries interest rates were reduced and physical controls on lending modified with the deliberate object of encouraging increased lending by the banks to obtain capital outlays. In Belgium official steps to this end included a complete overhaul of the regulations governing the cover of liabilities maintained by the commercial banks, as well as a reduction in bank rate. In most of these countries the " cheaper money " policy led to an expansion in the advances and deposits of the trading banks. In Switzerland an important factor in the banking situation during 1949 was the renewed influx of gold from other countries. However, steps taken by the Swiss authorities to " neutralize " the gold inflow proved largely successful, the volume of bank money showing no substantial change. In the Netherlands and the Scandinavian countries, the tendency for the supply of savings to fall short of the demand for investment finance was the main concern of bankers. The demand for bank finance on official account was, however, generally much reduced when

compared with the preceding years so that it was possible to avoid further large increases in balance-sheet totals of an inflationary character. (C. H. G. T.)

United States. In 1949, banking and monetary developments followed a pattern first of moderate contraction of bank credit and then of renewed expansion. Contraction of bank credit occurred in the winter and spring, accompanying the downward movement in business. Later in the year, recovery in levels of economic activity brought about a resumption of bank credit expansion.

A notable development in the field of banking which occurred during 1949 was a comprehensive congressional study and investigation into the effectiveness and co-ordination of monetary, credit and fiscal policies. The Subcommittee on Monetary, Credit and Fiscal Policies of the Joint Committee on the Economic Report received statements on the issues involved from the heads of government agencies in the credit field and from a number of leading economists, bankers and businessmen. The publication of this collection of statements was followed by hearings before the sub-committee during November and December, and by the submission of a report by the sub-committee in Jan. 1950. Strong differences of opinion among government officials, bankers and economists appeared in the course of the congressional inquiry. In its report, the sub-committee recommended " not only that an appropriate, vigorous, and co-ordinated monetary, credit and fiscal policy be employed to promote the purposes of the Employment act, but also that such policies constitute the government's primary and principal method of promoting those purposes."

In 1949 total bank deposits, other than inter-bank and United States government, and currency outside banks rose by $1,000 million to reach a new record level of $170,100 million at the end of 1949. The decline in currency outside banks, of about $1,100 million marked an acceleration in the decline of the preceding two years. Demand deposits adjusted rose $1,200 million during the year. The rise in total time deposits adjusted, amounting to $1,000 million represented a corresponding increase of time deposits at mutual savings banks with an increase of $100 million in time deposits at commercial banks being offset by a decline of about the same amount in postal savings deposits.

During the year as a whole, total loans of all commercial banks increased by about $800 million. Holdings of government securities rose $4,700 million and holdings of other securities increased about $1,000 million. Total loans and investments rose by about $6,500 million during 1949. These developments were in sharp contrast to those of the previous year when a large increase in the total loans of all commercial banks was offset by a greater decline in holdings of government securities with total loans and investments showing a decline.

At the end of the year, total loans of all commercial banks amounted to $43,300 million, exceeding all previous records. During 1946, 1947, 1948 and 1949, major changes had taken place in the composition of loans and investments of all commercial banks Total earning assets of all commercial banks showed some decline in the four years from $124,000 million on Dec. 31, 1945, to $120,800 million at the end of 1949. Total loans were up $17,200 million. In contrast, holdings of government securities declined by $23,300 million. Holdings of other securities rose to $3,000 million.

On June 30, 1949, national banks, which numbered almost 5,000, held $78,200 million of total deposits. State banks, which numbered rather more than 9,000 had total deposits of $59,300 million.

Total consumer credit outstanding was $18,800 million at the end of Dec. 1949, an increase of 15% or $2,500 million during the year. Almost all of the total growth occurred in the instalment credit category, with non-instalment credit, including charge accounts, single payment loans and service credit, rising only slightly. Apparently in response to eased credit terms, which occurred after expiration of Regulation W on June 30, outstanding instalment sale credit (appliances, furniture, radio and television sets) was 21% greater than at the end of 1948. Cash instalment loans increased 14% during 1949, evidence of the gradually weakening liquid asset position on the part of individual consumers.

The gold stock showed little change during the year as a whole. An increase of almost $400 million in the gold stock in the first nine months of the year was followed by a decline of almost $300 million after the devaluation of the British pound and other currencies in September. Just before the devaluation of the pound sterling on Sept. 18 and the subsequent changes in other currency values, the gold stock reached a record of about $24,700 million.

Corporate issues for new capital decreased in 1949 as compared with the preceding year, but nevertheless remained at a high level. New corporate security financing fell off sharply during the last six months of the year, however, in large part as a result of a moderate decrease in business capital expenditures and lessened working capital requirements. The tendency for a growing reliance on internal sources of funds continued in 1949. Bond issues comprised the bulk of corporate issues for new capital purposes, although the volume of new stock issues somewhat exceeded the 1948 total. Refunding issues were small in volume. State and local government issues for new capital reached a new record-breaking total, in spite of the reduced contributions of veterans' bonus bonds. (J. K. L.)

Mutual Savings Banks. The mutual savings banks of the United States ended the year July 1, 1948-July 1, 1949, with assets totalling $21,112,142,047, deposits of $18,949,020,111, and a surplus of $2,062,634,259, equivalent to 10·9% of deposits. During the year which ended on July 1, 1949, the net increase in assets was $849,184,942 or 4 2% and the net increase in deposits was $738,588,044 or 4 1%. These increases were less than those recorded during the previous year of $910,356,586 or 4·7%, and $793,955,422 or 4·6% respectively. There were 19,186,258 accounts on July 1, 1949, a net gain of 432,579 during the year, whereas in the previous year there was a net gain of 566,661 accounts.

The average rate of dividend paid by all mutual savings banks increased from 1·73% on July 1, 1948, to 1·90% on July 1, 1949. On Dec. 31, 1949, there were 531 banks and 198 branches in operation, a net decrease of one bank and an increase of 17 branches during 1949, two of which were the result of mergers.

The annual growth of the savings banks had become relatively stabilized during the preceding three years at under $1,000 million. In the calendar year 1947 the net increase in deposits of mutual savings banks was $946,407,838; in 1948 it was $641,345,892, and for the first half of 1949 $547,742,152. In this same period the private share capital in savings and loan associations grew at the rate of $1,200 million annually, and private life insurance reserves increased $3,500 million annually. In addition the savings departments of commercial banks, the post offices (by means of postal savings), the U.S. Treasury Department (by selling savings bonds) and open-end investment trusts actively competed for the savings of the small investor. Since the portion of national income available for current savings had declined sharply since the war it had become necessary for the savings banks to extend their efforts to get new business. More branches, longer hours and higher dividend payments were adopted by many banks, and legal investment provisions of various savings bank states were changed to enable the banks to broaden their investments and so to increase earnings.

On July 1, 1949, the combined assets of all mutual savings banks consisted of the following: U.S. government securities, 55·22%; other securities, 11·21%; mortgage loans, 28·18%; cash and other assets, 5·39%. Mortgage loans amounted to $5,950 million, an increase of $816 million over the amount outstanding July 1, 1948. Since July 1, 1949, more than $146 million in loans were purchased from the Home Owners Loan corporation by savings banks in Massachusetts, New Jersey and New York in addition to loans made by the usual procedure. The combined portfolio of F.H.A. and Veterans Administration insured loans was $1,334 million, or 23·9% of all mortgage loans on Jan. 1, 1949. (*See* also BANK FOR INTERNATIONAL SETTLEMENTS; BANK OF ENGLAND; BANK OF FRANCE; BUSINESS REVIEW; EXPORT-IMPORT BANK OF WASHINGTON; FEDERAL RESERVE SYSTEM; INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT; INTERNATIONAL MONETARY FUND.) (HE. BR.)

BANK OF ENGLAND. Developments in Great Britain's external affairs were the main concern of the Bank of England during 1949. The bank normally acts as adviser to the Treasury in currency matters and also undertakes main responsibility for the operation of the country's exchange control machinery. In consequence, in the period prior to the devaluation of sterling in September it was called upon to play a large part in devising and enforcing measures to check the growth of evasion of the sterling area exchange regulations stimulated by the increased profitability of overseas black market dealings in cut-price sterling. Such measures were designed in particular to prevent legitimate sterling area dollar earnings being tapped by third countries and largely took the form of a general tightening-up of restrictions on transactions in sterling between the non-sterling countries. In the devaluation period, the bank's services were in demand in connection with the determination of the pound's new level and with preparations for the execution of the re-alignment operation. Subsequently it was required to devote its energies to an examination of the opportunities created by devaluation for adjustments in British exchange control policies to assist the flow of international trade and payments.

Movements in the note circulation were within narrower limits in 1949 than in the previous year, there being no evidence of large scale hoarding or dis-hoarding of bank notes by the public. In the first half of the year, the amount of currency in circulation showed a tendency to rise more rapidly than could be explained by seasonal factors, presumably owing to the existence of inflationary pressures in the country. The total value of notes was raised by £50 million by temporarily increasing the fiduciary issue to £1,350 million between July and September to meet the summer holiday demand for additional currency.

BANK OF ENGLAND

	Oct. 29, 1947 (£ million)	Oct. 27, 1948 (£ million)	Oct. 26, 1949 (£ million)
Issue Department			
Notes in circulation	1,361	1,231	1,259
Fiduciary issue	1,450	1,300	1,300
Banking Department			
Public deposits	14	13	17
Treasury special account	—	20	63
Bankers' deposits	289	307	398
Other deposits	98	93	107
Government securities	286	322	403
Other securities	37	37	27
Reserve	91	72	47

The bank's annual report to Feb. 28, 1949, contained an analysis of the note circulation by denominations, as well as other statistical material relating to the bank's activities and a summary of external financial agreements concluded by the British authorities in the previous 12 months. (C. H. G. T.)

BANK OF FRANCE. Although steps taken by the French government to contain inflationary stresses were relatively successful during 1949, the year witnessed a considerable increase in the note circulation of the Bank of France. The movement was to come extent explained by large scale dis-hoarding of gold and foreign currencies against franc notes by French nationals after the revival of confidence in the franc in the first half of the year. Efforts to induce the French public to invest such funds in government securities were largely unsuccessful. A second factor was the withdrawal in currency by the French government of the franc counterpart funds realized by the sale of Marshall aid supplies in France. Pending the periodic agreements with the Economic Co-operation administration, these resources were included in the current accounts and deposits of the bank. The government's ability to call upon counterpart funds to cover net deficits in respect of the nationalized industries, coupled with the increase in taxation and new efforts at economy, enabled it to cover its commitments without calling to any extent on the bank for financial aid during the year.

In June the bank concluded an agreement with the French Foreign Exchange Stabilization fund whereby it undertook to provide finance for foreign exchange purchases by the fund. Previously, such resources had been furnished by the Ministry of Finance. A condition of the agreement was that periodic sales of foreign exchange should be made to the bank to limit such advances.

The bank continued during the year to apply the "dear money" policy the government had adopted towards the end of 1948. But owing to the shortage of funds on the money market caused by the unwillingness of the French public to make savings available for investment, the bank was called upon to expand its discounts and advances by a considerable amount during the year.

BANK OF FRANCE

	Sept. 25, 1947 (Frs. million)	Sept 30, 1948 (Frs million)	Sept 29 1949 (Frs. million)
Assets			
Gold *	52,800	65,200	65,200
Private discounts and advances	143,900	257,800	442,400
Advances to state †	694,800	711,700	715,200
Liabilities			
Notes	852,200	910,600	1,210,600
Government deposits	800	800	200
Other deposits	70,300	191,300	138,800

* Including Frs 12,408 million affected as guarantee under the convention of Nov 17 1947

† Including obligations of the state relating to the Bank of Belgium's gold deposit

In January, Wilfrid Baumgartner succeeded Emmanuel Monick as governor of the bank. M. Baumgartner had been chairman and general manager of the *Crédit National.* (C. H. G. T.)

BAO DAI, former 13th emperor of Annam (b. Hué, Oct. 22, 1913), succeeded to the throne at the age of 12 when his father, Emperor Khai Dinh, died on Nov. 6, 1925. Having completed his studies in France, he assumed power in Sept. 1932 under the name of Bao Dai ("he who maintains greatness"). On March 20, 1934, he married Mariette-Jeanne N'Guyen Huu Thi Lan, a Roman Catholic from Cochin-China who had been brought up in a Paris convent; by her he had five children. Up to the proclamation of Annamese independence by Japan on March 11, 1945, his position was unaffected by the world situation. On June 30, 1945, he renamed his state Vietnam which suggested an idea of re-unifying Tongking and Cochin-China with Annam. Shortly after the Japanese surrender he abdicated on Aug. 24, becoming citizen N'Guyen Vinh Thuy, adviser to Ho Chi Minh, leader of the Vietminh (Communist) party and president of a republic of Vietnam proclaimed at Hanoi on Sept. 2. In April 1946 Bao Dai was sent to Chungking as representative of the Vietnamese republic. When in Dec.

1946 fighting between Vietnamese and the French began, he took refuge in Hong Kong. He expressed readiness to negotiate with France "an honourable and lasting peace," and to break with Vietminh. Difficult negotiations began in Dec. 1947 and culminated on June 5, 1948, in the protocol of the Bay of Along, by which France recognized the independence of Vietnam, and in the agreement of March 8, 1949, which determined the conditions. On April 28 Bao Dai returned to Vietnam where he was declared an outlaw by Ho Chi Minh. On July 1 he formed a government with himself at the head. A clever diplomat, Bao Dai took advantage of his failure with the Nationalists to make further demands on France which became pledged to a formula of increasingly uncertain success. On Dec. 30 in Saigon he signed a series of conventions implementing the March agreement. (C. A. J.)

BAPTIST CHURCH. The Northern Baptist convention of the United States meeting in San Francisco, California, May 30 to June 3, 1949, registered 5,071 delegates. It was reported that of the $16,163,601 pledged to the World Mission crusade in 1947, 92·9% had been received. It was voted to allocate a larger amount of the budget than formerly to foreign missions. Negotiations with the Disciples of Christ concerning the merger of the two bodies were to continue. A proposal to change the name, Northern Baptist convention, to American Baptist convention was approved. A general secretaryship was created by combining the corresponding secretaryship and the recording secretaryship, the incumbent to serve as the recognized spokesman for the convention. Mrs. Howard G. Colwell of Loveland, Colorado, was chosen president for the year 1949-50, the third woman to hold the office. The 1950 convention was scheduled to meet in Boston, Massachusetts, May 21 to 26, 1950. Dr. G. Pitt Beers, executive secretary of the American Baptist Home Mission society of the Northern convention assured the Church World service that the denomination would provide homes for 1,200 families of displaced persons.

The Southern Baptist convention met in Oklahoma City, Oklahoma, May 18 to 22, 1949, registering 9,357 messengers. Total gifts for the year 1948-49 amounted to $16,605,521. The Foreign Mission board proposed a goal of 1,750 foreign missionaries and an annual budget of $10,000,000. The 26,822 convention churches reported 312,246 baptisms, bringing the total membership to 6,491,981. The convention also operated 25 hospitals valued at $42,176,301. Its three theological seminaries, Southern, Southwestern and New Orleans, reported a total enrolment of 2,551 students. The convention formed a special organization through which individuals and churches might become sponsors for displaced persons. The 1950 convention was expected to take place May 7 to 12, in Chicago.

A new Baptist church at Nagyvarsany, Hungary, was consecrated May 9, 1949, with 1,000 Baptists present. The World Congress of Baptist Youth, numbering 1,350 delegates from 23 countries, met Aug. 3 to 9, 1949, in Stockholm.

During the first week of Sept. 1949, the Baptists of Wales celebrated the tercentennial of the founding of the first Baptist church in the principality. The Ontario and Quebec Baptist convention, Canada, celebrated its diamond jubilee, June 9 to 12, 1949. A memorial lectern to William Carey, the great Baptist missionary appointed by English Baptists to India in 1792, was dedicated in Westminster Abbey, Oct. 11, 1949. Dr. S. Pearce Carey presented the lectern which was received and dedicated by the dean of the abbey.

During 1949 plans were being consummated for a Commonwealth and Empire Baptist congress to be held in London, England, June 3 to 10, 1951. (*See* also CHURCH MEMBERSHIP.) (R. E. E. H.)

BARBADOS. British colony consisting of the most easterly of the Caribbean islands. Area: 166 sq. mi. Pop. (1948 est.): 199,012. Governor, A. W. L. Savage.

History. Constitutional changes were proposed by the House of Assembly to the effect that it should have undivided authority in matters of finance, the life of the assembly should be extended from two to three years and a Parliament bill should be introduced to regulate relations between the assembly and the Legislative Council on the basis of those now existing between the British House of Commons and the House of Lords; and that if necessary the governor request the secretary of state for power to nominate sufficient additional councillors to secure the passage of the bill.

A report on local government by Sir John Maude recommended that the 300-year-old system of 11 vestries and 32 parochial boards should be abolished, and that the colony should be divided up into three areas for local government purposes: a northern district and a southern district (each with a council) and the town of Bridgetown, which should be granted municipal status with its local government entrusted to a city council.

Finance and Trade. Currency: West Indian dollar ($4·80 = £1). Budget (1948-49): revenue £1,940,467; expenditure £2,051,626. Foreign trade (1948): imports £6,346,230; exports £3,048, 165. Principal exports: sugar and its by-products, molasses and rum. (J. A. HU.)

BARBIROLLI, SIR JOHN, British orchestra conductor (b. London, Dec. 2, 1899), was educated at the Royal Academy of Music, and made his first public appearance as a violoncellist at Queen's hall in 1911. He toured the British Isles and Europe as a member of the international string quartet, 1920-24. In 1925 he founded the Barbirolli chamber orchestra and in 1926 he joined the British National Opera company as conductor. In 1937 he succeeded Arturo Toscanini as permanent conductor and music director of the



Sir John Barbirolli, conductor of the Hallé orchestra. He was knighted in June 1949.

New York philharmonic symphony orchestra. He refused to give up his British nationality and, not being permitted by the American Musicians' union to continue in his post, left the United States in 1942. In the following year he became conductor of the Hallé orchestra of Manchester. At that time the Hallé was near dissolution because of wartime difficulties and Barbirolli succeeded in restoring it to its prewar eminence. At the end of 1948 he was asked to succeed Sir Adrian Boult as conductor of the B.B.C. symphony orchestra but declined, desiring to remain with the Hallé. In return it was agreed that the Hallé should be augmented to full concert strength, that the minimum wage for its musicians should be increased and that the orchestra should make one foreign tour each year. During 1949 Barbirolli conducted at the Belgian international music festival and at the Edinburgh festival, but in August was told by his doctors that he should restrict his activities for one year solely to the Hallé. He was knighted in the birthday honours, June 1949.

BARKLEY, ALBEN WILLIAM, United States politician (b. Graves county, Kentucky, Nov. 24, 1877), attended Marvin college, Clinton, Kentucky, Emory college, Oxford, Georgia, and the University of Virginia law school, Charlottesville. He was elected prosecuting attorney of McCracken county, Kentucky, in 1905, and was judge of McCracken county court, 1909-13. He was elected to the House of Representatives as a Democrat in 1913, and after 14 years there was elected to the Senate. He was permanent chairman of the 1940 convention and at the 1944 convention delivered the speech nominating Franklin D. Roosevelt for a fourth term. During World War II he was Senate majority leader and, as such, shepherded numerous wartime and emergency acts through that body. In the 80th Congress (elected in Nov. 1946) he was minority leader in the Senate. At the Democratic national convention in Philadelphia, Pennsylvania, in 1948, he was nominated Democratic candidate for the vice presidency and on Nov. 2 was elected with President Harry S. Truman, taking office on Jan. 20, 1949, as the nation's first vice president since April 12, 1945. On Jan. 19, 1949, President Truman signed a bill to increase certain salaries including those of the president and the vice president (who is also president of the Senate) and thus when Barkley took office the following day he started to draw the increased salary of $30,000 a year (as against $20,000 previously). On Nov. 18, in St. Louis, Missouri, Barkley, who had been a widower from 1947, married Mrs. Carleton S. Hadley, a widow.

BARLEY: *see* GRAIN CROPS.

BASEBALL. On June 5, 1949, more than three years after they had been suspended for five years from professional baseball for jumping to the Mexican league, 18 former major league players were granted complete amnesty by Commissioner A. B. Chandler and invited to return to their former clubs immediately.

The top player deal of the year transferred pitcher Murry Dickson from the Cardinals to the Pirates for $125,000. In other manoeuvres, the Dodgers brought up pitcher Don Newcombe from their farm at Montreal, Quebec, on May 15, and the Negro righthander immediately became one of the aces of Manager Burt Shotton's staff. The Boston Red Sox also sought to strengthen their hill staff by trading pitcher Mickey Harris and outfielder Sam Mele to the Washington Senators for hurler Walter Masterson.

After more than two months on the side lines because of an injured heel, Joe DiMaggio made his 1949 debut at Boston, Massachusetts, on June 28. In his first game, the Yankee Clipper clouted a two-run homer to feature a 5 to 4 victory. The next day he poled two round-trippers, one with two team mates on the basepaths, to highlight a 9 to 7 victory, and the third day he rapped a three-run homer as New York scored a 6 to 3 win.

Major League Races. In what were probably the most dramatic races in big league history, the New York Yankees and Brooklyn Dodgers captured the American and National league championships, respectively. Each pennant was decided on the closing day of the season with the Yankees defeating the Boston Red Sox, 5 to 3, to edge out Joe McCarthy's club by one game, and the Dodgers defeating the Phillies, 9 to 7, to protect their one-game margin over the St. Louis Cardinals, who beat the Chicago Cubs.

Individual Performances. Ted Williams' bid to win the triple crown—high-batting-average, runs-batted-in and home-run leadership—was thwarted on the final day of the season when George Kell, Detroit third baseman, passed up the Boston outfielder, posting a mark of ·3429 to Ted's ·3427. Williams won home-run honours, however, with 43, and tied for runs-batted-in with his teammate Vern Stephens at 159.

Jackie Robinson won the National league batting title with ·342, out-distancing Stan Musial, who finished second, by three points, and gained the most valuable laurels in the senior circuit.

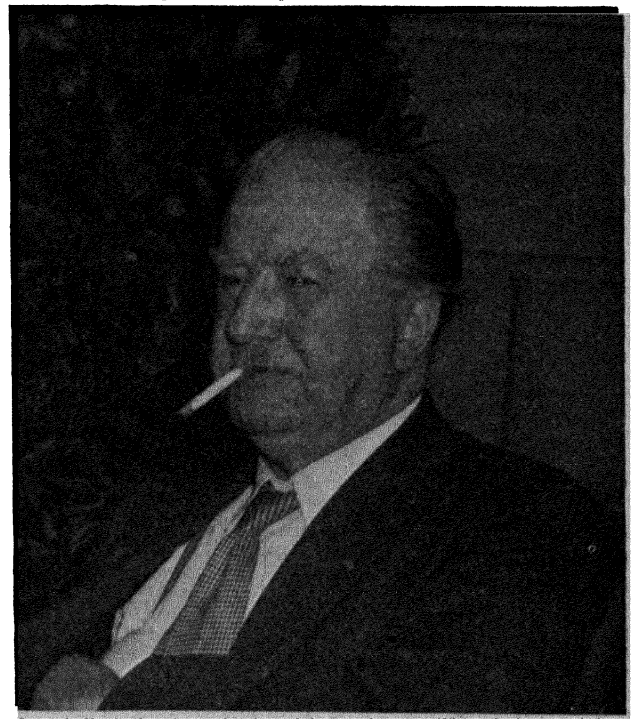
All-Star Game. The American league registered its 12th victory against only four losses in the midseason classic by defeating the senior circuit, 11 to 7, July 12.

World Series. The Yankees chalked up their 12th world championship out of 16 post-season series in which they participated, by defeating the Dodgers, four games to one.

(A. B. C.)

BASUTOLAND: *see* BRITISH SOUTH AFRICAN PROTECTORATES.

BECH, JOSEPH, Luxembourg politician (b. Diekirch, Luxembourg, Feb. 17, 1887), after qualifying as doctor of law in 1912 at the University of Paris, practised as a lawyer at Luxembourg. Entering politics, he was elected to the



Joseph Bech, foreign minister of Luxembourg. This photo was taken at the Council of Europe in Strasbourg, Aug. 1949.

Chamber of Deputies in 1914 as a member of the Christian Social party, was minister of justice 1921-25 and prime minister and minister of foreign affairs, 1926-37. He served as foreign minister in the successive cabinets of Pierre Dupong (*q.v.*). From Aug. 1940 to April 1945 he represented his government in London. On Oct. 3, 1918, he married Georgette Delahaye, and had a son and daughter. On April 4, 1949, at Washington, he signed the North Atlantic treaty on behalf of the grand duchy of Luxembourg.

BECHUANALAND: *see* BRITISH SOUTH AFRICAN PROTECTORATES.

BEEKEEPING. Beekeepers in Great Britain found the year 1949 a great improvement on 1948. In districts which had sufficient rain excellent yields of surplus honey resulted. In a few places quantity of produce was disappointing; in others the hot, dry weather resulted in a mixture of honey dew, sometimes spoiling the whole take. Reports from heather districts showed that both the quantity and quality of the yield were good, owing not so much to heavy secretion of nectar as to the almost unprecedented weather conditions for foraging. Light coloured varieties were scarce, as evidenced by the exhibits on the show benches, but the darker honeys generally displayed made up for this in density and flavour. In most areas there was satisfactory storing in brood chambers, and, with comparatively little feeding, apiarists packed down for the winter with confidence.

Probably because of the exceptional heat and dryness the temper of bees was a matter for common complaint, but where adequate water supplies were available the bees were quite normal in this respect. As an offset, however, swarms were much fewer than in 1948, owing no doubt to fewer breaks in the possibilities of foraging.

Rearing young queens to head colonies in 1950 presented less difficulty than usual. Climatic conditions from early spring to the end of September were ideal for mating flights. In spite of this an exceptional number of strong colonies run for honey were queenless when supers were removed, which suggested that bees were too busy collecting nectar to attend adequately to what should have been a matter of high priority.

Bee diseases were still a menace owing to the carelessness of many owners. Acarine disease, for example, could be prevented either by using the Frow remedy in early spring or by giving a supply of wintergreen oil on packing down for winter; a small bottle of this oil stuffed with a cotton wick and placed on the floor-board between the frame ends and near the cluster was found to be an almost certain preventative. Foul brood (American and European) was not being treated as drastically as it should be; still the only known method of stamping out the disease was by burning and disinfecting. (*See* also ENTOMOLOGY.) (W. H. R.)

BEER: *see* BREWING AND BEER.

BELGIAN COLONIAL EMPIRE. The Belgian colonial empire consists of the colony of the Congo in central Africa and the adjacent trust territories of Ruanda and Urundi. The accompanying table gives material relative to all territories administered by Belgium. Total area: about 925,094 sq. mi. Total population (1949 est.): about 14,352,200. Chief towns (white population only, Dec. 1948 est.): Léopoldville (cap., 7,244); Elisabethville (6,240); Stanleyville (1,517); Costermanville (1,511).

History. The prosperity enjoyed by Belgium's African colony after World War II in 1949 showed no signs of diminishing; the year was one of consolidation, though there was, to begin with, a fall in the prices of oil-bearing products and fibres, and later of mining products. " We are doubly affected by this situation," commented the governor general, Eugène Jungers, in a statement to the council of government held at Léopoldville July 18-25. " While we are getting less for our exports, we continue to pay inflated prices for imported producer and consumer goods."

With a view to adapting the economy of the Belgian Congo to peacetime conditions and to consolidating results already achieved, a team of experts at Léopoldville under the chairmanship of the governor general, and another in Brussels under the chairmanship of Pierre Wigny, the minister for colonies, drew up a ten-year plan for economic and social development, allocating Fr.25,000 million to public investment. Published in June, the plan amply justified itself on various administrative, economic, social and political grounds, the most important being the need to co-ordinate efforts and to apportion in a co-ordinated programme the different projects to be undertaken. In the opinion of the minister for colonies, the ten-year plan was not of a restrictive nature. Each year the government would ask parliament to vote the necessary credits for the next twelve months and this, the minister pointed out, would afford the opportunity for checking the working of the plan and making any adjustments which might be required.

Not only would the ten-year plan tend to improve the living standards of the Belgian Congo's ten million population, whose essential needs were not yet satisfied, but it would also create a domestic market hitherto lacking. To this end, the government was to pursue a policy of wage increases for Natives which could be secured by developing output, conservation of crops and improving distribution and transport.

In the mining sector, since alluvial deposits were almost exhausted, new techniques were perfected for exploiting deep seams. In the agricultural domain, greater mechanization, curing processes and the construction of silos were foreshadowed.

In all, the public authorities were to devote, for the welfare of the Native population, Fr.1,500 million for the agricultural programme, Fr.2,000 million for housing, Fr.1,000 million for drinking water, Fr. 2,000 million for education and Fr.2,000 million for technical instruction.

Also envisaged in the ten-year plan was intensive development of public works, including improvement of the road, railway and airway systems, of navigable waterways and of telecommunications, modernization of sea and river ports, and the construction of wharves, hydro-electrical works, refrigerating plants, scientific laboratories, etc.

Operation of the agricultural provisions of the ten-year plan began on July 15, 1949, with the passing of an order for organizing Native co-operatives. " If this programme succeeds," wrote Pierre Wigny, in his introduction to the *Plan décennal pour le développement économique et social du Congo Belge*, " we may be satisfied that for millions of human beings life will be a little easier and a little happier."

Ruanda and Urundi. The putting under trusteeship of the two territories, which since 1925 had been administered by Belgium, was approved by the Belgian parliament by the act of April 25, 1949. On April 11 the Mwamis (Native rulers) of both Ruanda and Urundi had been appointed, by decree of the regent, *ex officio* members of the vice-governor general's council.

In order to encourage greater participation by the Natives in the government of their country, the administrative authorities examined the question of creating an elected council which would have a legislative function.

With regard to the wage problem which had been raised at the fourth session of the United Nations general assembly, it may be recorded that in Ruanda-Urundi between 1938

BELGIAN COLONIAL EMPIRE

Country and Area (in sq. mi.)	*Population* (Feb. 28, 1949 est.)	*Capital, Status and Governor*	*Principal Products* (1948) (Including Ruanda and Urundi)	*Foreign Trade* (Francs '000) (Including Ruanda) and Urundi) 1948	*Road, Rail and Waterways* Including Ruanda) and Urundi)	*Budget* (Francs '000)
BELGIAN CONGO 904,974	Native 10,914,208 White 51,639 * (Including 36,510 Belgians)	Léopoldville; colony; governor general: Eugène Jungers	Diamonds 11,250,000 carats Gold . . 10,103 kg. (in metric tons) Copper . . 157,397 Tin (metal) . . 3,921 Zinc (concentrates) 117,822 Manganese ore . 15,851 Uranium ore (1946) 6,200 Palm Oil . . 110,387 Palm kernels . 83,375 Gum Copal . . 10,919 Cotton . . 51,224	Imports 8,383,140 (756,253 metric tons) Exports 10,817,465 (854,305 metric tons) 1949 (six months) Imports 5,147,930 (443,310 metric tons) Exports 5,470,838 (396,677 metric tons)	Roads (1947) 100,524 km. Railways (1948): 4,747 km. Waterways (1948): 25,412 km. (including 12,284 km. for barges of 40 tons only) Motor vehicles (1947): Cars . 5,389 Lorries . 7,733 Tractors . 167 Motor cycles 1,282 Bicycles . 69,382	Belgian Congo (1948 actual) Revenue 3,703,894 Exp. 3,557,795 (1949 est.) Rev. 4,562,602 Exp. 4,460,764 *Index number of the cost of living* (July 1935 = 100) July 1949 = 260
RUANDA AND URUNDI 20,120	(1948 est.) Native 3,386,362	Nianza (Ruanda) Kitega (Urundi) trust territory administered with Congo	Coffee . . 30,545 Cacao . . . 2,220 Rubber . . 5,072 Timber . . 78,099 Quinine (7% content) 1,500			Ruanda-Urundi (1948 actual) Revenue 200,458 Expenditure 230,464 (1949 est.) Revenue 232,062 Expenditure 347,504

* Including Ruanda and Urundi.

and 1949 wages had risen in the proportion of one to four, much more than the increase in output.

Steps were taken towards the opening at Kisantu (Belgian Congo) in 1953 of a university accessible to the inhabitants of the protected territories; moreover, from 1955 university training was to be made available at Astrida, in the heart of Ruanda-Urundi.

Education. (1948) State schools: elementary 5, pupils 3,464; technical 3, pupils 355; secondary 4, pupils 313. Subsidized schools: elementary 8,001, pupils 406,652; technical 36, pupils 1,328; teachers training schools 39, pupils 2,471; secondary 12, pupils 959. "Free" (Catholic) schools: elementary 19,072, pupils 513,049; secondary 58, pupils 1,928.

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BELGIUM. A kingdom in western Europe bounded by France on the S.W., the Netherlands on the N. and Germany and Luxembourg on the E. Area: 11,782·5 sq. mi.* Pop. (Dec. 31, 1948, est.): 8,602,611. Languages (1930): Dutch 42·92%, French 37·56%, German 0·85%, Dutch and French 12·92%, German and French 0·83%. Religion: mainly Roman Catholic; Jewish 34,500. Chief towns (pop., Dec. 31, 1948, est.; first figure including suburbs, second figure *commune* only): Brussels (cap., 1,296,687; 185,112); Antwerp (chief port, 794,280; 266,636); Liége (573,176; 156,664); Charleroi (445,229; 26,262); Ghent (442,792; 166,797); Namur (215,069; 31,637); Bruges (200,850; 52,984). Ruler, King Leopold III (*q.v.*), Prince Charles (*q.v.*), regent; prime ministers in 1949, Paul-Henri Spaak (*q.v.*) and, from Aug. 11, Gaston Eyskens (*q.v.*).

History. Increasing unemployment—which already at the end of 1948 was giving cause for anxiety—was the chief political and economic preoccupation at the beginning of 1949. On March 12 the number of unemployed totalled 261,000, against 122,000 in Sept. 1948. Production, however, continued at a high level and on the stock exchange prices showed no tendency to fall. Some proportion of the unemployment, therefore, apparently was attributable to a general regrouping of manpower necessitated by a return to normal industrial activity dominated by competition. Though they agreed on measures for dealing with the problem, the two parties in power—the Social Christian party and the Belgian Labour (Socialist) party—were unable to agree over the question of unemployment insurance payments.

*Including some small German frontier areas north of Aachen annexed on April 15, 1949. The six-power agreement of March 26, 1949, authorized Belgium to take over an area of about 10½ sq. mi. with a population of about 6,000 but it renounced its claim to three townships and incorporated only an area of 7½ sq. mi. with a population of barely 500.



The primate of Belgium, Cardinal Joseph van Roey, and the prime minister, Paul-Henri Spaak at a military fête in Brussels, July 1949.

The Socialists insisted on new taxes; the finance minister, Gaston Eyskens (Social Christian), opposed this, considering that a policy of economy was the only possible course. The conflict remained latent for several weeks.

The Royal Question. Meanwhile, in mid-April, a private visit to Belgium by Princess Josephine-Charlotte brought again to the fore another cause of contention between the two groups, namely, the royal question. No official reception had been arranged; but wherever she went the daughter of Leopold III was greeted by the public with enthusiasm.

On April 25 the king and the regent met at Berne, Switzerland, in the presence of Paul-Henri Spaak, the premier, and Henry Moreau de Melen, minister of justice, to discuss the political situation and the royal question. On May 3 Leopold sent his brother a letter insisting on the need to find a way out of the impasse, by a popular vote or some other constitutional means. "The country," he wrote, "must return to constitutionalism; the present abnormal situation cannot continue indefinitely." This was also the view of the Social Christian party. Since the party was still unable to persuade the Socialists to relinquish the idea of new taxation to pay for unemployment insurance, a crisis was inevitable; and on May 18 the regent signed a decree dissolving the parliament. In uneventful conditions parliamentary and provincial elections took place on June 26, when for the first time women went to the polls. In the Chamber



Queen Elizabeth, mother of King Leopold and the regent, Prince Charles, with Princess Josephine-Charlotte, King Leopold's daughter, during the Princess's visit to Brussels in April 1949.

of Deputies the Social Christian party out of 212 seats gained 105, the Liberals 29, the Socialists 66 and the Communist party 12. In the Senate the Social Christians secured an absolute majority with 92 seats. (*See* also ELECTIONS.)

On June 28 Spaak presented the resignation of his cabinet to the regent. First to be charged with the task of forming a new cabinet was Paul van Zeeland (Social Christian), who suggested a vote by the two houses in joint session to end the regency, in accordance with the act of July 19, 1945; but neither the Socialists nor the Liberals were prepared to support him in this. On July 6 the regent next entrusted Frans van Cauwelwaert (Social Christian), speaker of the Chamber of Deputies, with a mission of inquiry. Though this lasted a fortnight, it produced no concrete result. Finally, on July 23, the regent called on Gaston Eyskens (Social Christian), finance minister in the outgoing cabinet.

As the crisis threatened to continue, King Leopold on July 31 and Aug. 1 received a delegation from the Socialist party and on Aug. 2 and 3 from the Liberal and Social Christian parties. At the close of these conversations the king sent a message affirming his determination to comply with the will of the nation. "It is my express purpose," he declared, "to interpret the result of a possible referendum only in terms of the higher interests of the country. If I were led to believe that in re-assuming my constitutional prerogatives I could not serve my country, I would abdicate in favour of my son, the crown prince."

The political atmosphere having been thus clarified, the Liberal party agreed to take part in the government. Formed on Aug. 10, with nine Social Christians and eight Liberals, the Eyskens cabinet on Aug. 17 received a vote of confidence in the Chamber of Deputies by 125 votes to 64 with one abstention, and in the Senate on Aug. 18 by 99 votes to 51 with one abstention. On Oct. 27, by 100 votes to 65, the Senate approved a bill introduced by Paul Struye (Social Christian) for a national referendum on King Leopold's return. In the Chamber of Deputies the bill was approved on Dec. 13 by a special committee. The vote was 12 to 8, with 11 Social Christians and one Liberal in favour and six Socialists and two Liberals against.

Economic Situation. Far from worsening, the economic position of Belgium was strengthened during the first nine months of 1949. This was evident from a rise of about 10% in stock exchange quotations and especially from the balance of foreign trade. Imports for the first seven months amounted to Fr.46,900 million and exports to Fr.49,000 million, that is, there was a balance of Fr.2,100 million. Industrial production, however, was affected by the unfavourable economic conditions in Europe, as shown by the index of industrial production (1936-38 = 100): from 123 in Jan. 1949 it rose to 132 in March but it fell to 105 in July. The coal-mining and metallurgical industries were those chiefly affected.

Tax revenues conformed with the estimates. Returns for the first seven months of the year were Fr.28,400 million against an estimate of Fr.28,500 million. Compensation for this slight discrepancy was afforded by special taxes which exceeded the estimates, producing Fr.2,700 million against an estimated Fr.2,400 million.

The Belgian franc was monetarily sound when the devaluation of the pound sterling occurred, followed by the devaluation of other western currencies. However, the Belgian government was obliged on Sept. 21 to bring it into line and raise the official exchange rate from Fr.43·83 to Fr.50 to the dollar, but lower it from Fr.176·63 to Fr.140 to the pound. An early effect of devaluation was a decline in exports, these being in October only Fr.5,920 million, or Fr.300 million less than in September and Fr.240 million below the monthly average for 1948.

Foreign Policy. The replacement of Paul-Henri Spaak by Paul van Zeeland in no way modified the broad lines of Belgian foreign policy which continued within the framework of the North Atlantic treaty and the Organization for European Economic Co-operation. Some check, however, to the realization of Benelux was given by the new minister of foreign affairs. At the conference of the three interested powers held at Luxembourg in October, van Zeeland refused to ratify several paragraphs which had been initialled at The Hague by delegates appointed by Spaak and which were concerned with the unlimited acceptance of Dutch florins by Belgium and the country's withdrawal of the gold clause. The negotiations ended, however, with the signature on Oct. 15 of a protocol which, although not achieving the union contemplated, nevertheless extended the list of articles freed from licence and granted additional credits to Holland. Van Zeeland was consequently able to testify that one step forward had been accomplished. "Being realists," he added, "we took into account recent events, especially the devaluations which, of course, must have some effect. Benelux will serve the interests of the three countries: for others it has a symbolic significance."

Education. (1947-48) Elementary: infant schools 4,175, pupils 249,023; primary schools 8,697, pupils 788,514; adult schools 211. Teachers' colleges: elementary 120, students 9,443; secondary 39, students 1,055. Secondary education, state: lower grade (*athénées*) 121, pupils 52,153; higher grade (*écoles moyennes*) 129, pupils 36,545; "free" (Catholic, 1945-46) 440, pupils 65,918. Technical schools (1947), pupils 226,290. Universities (1947-48) 4, institutions of higher education 16, students 17,933.

Agriculture and Fisheries. Main crops (in '000 metric tons, 1948; 1949 in brackets): wheat 344 (425); barley 172; oats 385; rye 184; potatoes 2,133 (1,905). Production ('000 metric tons): sugar (raw value) 263; meat 220·8; milk 2,250; butter (1947) 25. Livestock (mid-1949): cattle 1,876,876; sheep 155,173; pigs 1,074,228; horses 267,373; poultry 8,609,135. Fisheries: total catch (1948): weight 64,440 metric tons; value Fr.462 million.

Industry. Industrial establishments (Jan. 1948) 248,128, persons employed 1,000,010. Fuel and power (1948; 1949, six months, in brackets). coal (in '000 metric tons) 26,678 9 (14,564 9), gas (in '000 cu.m) 1,698,257 (880,524), electricity (in million kwh) 7,903 (4,100). Raw materials (in metric tons 1948; 1949, six months, in brackets): pig iron and ferro-alloys 3,948 (2,110); steel ingots and castings 3,912 (2,163), copper 132 (66), zinc 154 (92), lead 66 (34), tin 12 3 (5 5), aluminium 2 3 (1 1) Manufactured goods (in '000 metric tons, 1948, 1949, six months, in brackets) cotton and rayon fabrics 62,659 (29,560), woollen fabrics 19,386, linen fabrics 5,014, rayon fabrics 5,166

Foreign Trade. (Belgo-Luxembourg Economic Union; in million francs, '000 metric tons in brackets). Imports. (1948) Fr 72,931 (24,324); (1949, six months) Fr 40,441 (13,917). Exports (1948) Fr 61,767 (12,583); (1949, six months) Fr 41,930 (7,055)

Transport and Communications. Roads (1948). 10,717 km Licensed motor vehicles (1948). cars 179,230, lorries 125,739, motor cycles 108,641 Railways (1948) 4,956 km ; passenger traffic (1948 monthly average), 599 million passenger-kilometres, goods traffic (1948 monthly average), 513 million ton-km Shipping (Jan 1948) number of merchant vessels 78, total tonnage 248,298 Port of Antwerp (goods traffic in '000 metric tons, 1948, 1949, six months, in brackets)· imports 15,857 (11,760), exports 10,912 (6,867) Telephones (1948) subscribers 420,929 Wireless licences (1946) 798,023

Finance and Banking. (Million francs) Budget· (1949 est) revenue 69,472, expenditure 71,584 (at the end of 1949 the est deficit approached 17,500), (1950 est) revenue 66,736, expenditure 83,884 National debt (March 31, 1947) 258,200. Currency circulation (Oct 21, 1948; in brackets Nov. 3, 1949) 81,555 (87,361). Gold reserve (Oct 21, 1948; in brackets Nov 3, 1949): 28,326 (31,551) Savings and bank deposits (Dec. 1948; in brackets Aug. 1949) 65,900 (69,800) Monetary unit. Belgian *franc* with an exchange rate of Fr 140 to the pound (instead of Fr 176 63 before Sept 21, 1949) (G.-H. D.)

BENEDIKTSSON, BJARNI, Icelandic statesman (b. Reykjavik, April 30, 1908). In 1930 he took his degree in law at the University of Reykjavik and later studied at the universities of Berlin and Copenhagen. During 1932-40 he was professor of constitutional law at the University of Reykjavik. He had joined the Independence (Conservative) party and from 1936 was a member of its executive committee. A councillor of Reykjavik from 1934, he was elected major in 1940 and twice again afterwards. In 1942 he was elected a member of the Icelandic *Althing* (parliament) and was re-elected in 1946, becoming chairman of the foreign relations committee of the *Althing*. On Feb. 4, 1947, he was appointed minister of foreign affairs in the coalition cabinet of Stefán J. Stefánsson, a Social Democrat. On April 4, 1949, at Washington, he signed the North Atlantic treaty on behalf of Iceland. He said on this occasion: " We would all prefer to lose our lives rather than our freedom, either as individuals or nations." On Dec. 18, 1943, he married Sigridur Bjornsdottir and they have two children.

BENELUX: *see* BELGIUM; NETHERLANDS; LUXEMBOURG.

BEN-GURION, DAVID, Israeli statesman (b. Plonsk, Poland, Oct. 16, 1886), became prime minister and minister of defence when the State of Israel was proclaimed on May 14, 1948. (For his early career see *Britannica Book of the Year 1949*).

After the adoption of the constitution and the formal election of Dr. Chaim Weizmann as president of the republic on Feb. 16, 1949, Ben-Gurion submitted the cabinet's resignation to the president, who charged him with the task of forming a new administration. On March 8 he announced the formation of a coalition cabinet and on March 10 received in the Israeli parliament a vote of confidence by 73 votes to 45. In his policy statement he declared that Israel would seek friendship with all peace-loving nations, particularly the U.S. and the U.S.S.R. In a speech on Oct. 29 he accused the Communists of causing labour unrest in Israel and of organizing anti-Zionist activities abroad. A struggle, he said, was being waged between the Socialist Zionists and the Communist Jews: there could be no compromise. Israel must be built as a Jewish state or act as a foreign agency.

BEQUESTS: *see* DONATIONS AND BEQUESTS.

BERIA, LAVRENTY PAVLOVICH, Soviet politician of Georgian extraction (b. near Sukhum, Georgia, March 29, 1899). In 1919 he graduated from Baku Higher Technical college and from 1917 was a member of the Communist party. In 1921 he was appointed head of the Caucasian section of the Cheka (Extraordinary Commission for Repression of the Counter-revolution) and remained in this post for ten years, although in 1922 the Cheka was transformed into O.G.P.U. (United State Political department). In 1931 he became secretary general of the Georgian Communist party and in the following year secretary general of the Transcaucasian regional party commission; in this new post he continued his former function of purging the Georgian, Armenian and Azerbaijanian parties of nationalist deviation. In 1934 the 17th congress of the All-Union Communist party elected him to the central committee. On Dec. 8, 1938, he was appointed head of the N.K.V.D. (People's Commissariat of Internal Affairs), into which the O.G.P.U. had been transformed in 1934. On Jan. 31, 1941, when the commissariat was divided into two sections, the N.K.V.D. dealing with internal affairs and the N.K.G.B. with state security, Beria headed the former, remaining chief of the political police. From March 23, 1939, he was substitute member of the Politburo. On June 30, 1941, he became a member of the State Defence committee. For organizing munitions production during World War II he was awarded in 1944 the title of Hero of Socialist Labour and the Order of Lenin. In 1945 he received the rank of marshal of the Soviet Union. He ceased to be the formal head of internal security on March 15, 1946, but was appointed deputy chairman of the council of ministers and, four days later, was promoted full member of the Politburo. On his 50th birthday he received the Order of Lenin for the second time. In September it became known that for four years he had been in charge of the Soviet atomic research organization.

BERLIN. Capital of the German Reich from 1871 to 1945, Berlin was still by 1949 the largest city of Germany. Area: 343·6 sq. mi. Pop.: (May 17, 1939, census) 4,332,242, (Oct. 29, 1946, census) 3,179,200 or 24 4% less. From June 6, 1945, to June 24, 1948, Berlin was administered by an inter-Allied governing authority (in Russian, Kommandatura) consisting of the commandants of the four sectors of Berlin. After June 24, 1948, when the Soviet commandant proclaimed the dissolution of the Kommandatura, Berlin was in fact divided into two opposing administrations. The three western sectors (pop., mid-1949 est., *c.* 2,500,000) were under the authority of the following Allied commandants: Great Britain, Major General Geoffrey K. Bourne (who on Jan. 22, 1949, succeeded Major General E. O. Herbert); United States, Major General Maxwell D. Taylor (who on Aug. 6 succeeded Colonel Frank L. Howley); France, General Jean Ganeval. In the Soviet sector (pop., mid-1949 est., 900,000) the commandant was Major General Alexander G. Kotikov There were also two rival German city governments and two lord mayors: Professor Ernst Reuter, appointed on Dec. 7, 1948, *Oberburgermeister* by a city assembly elected by the population of the three western sectors; Fritz Ebert, appointed on Nov. 30, 1948, provisional *Oberbürgermeister* of the Soviet sector by a meeting summoned by the S.E.D. (Communist) party.

History. After talks between the Soviet and U.S. representatives on the Security council of U.N. the Soviet government agreed on May 4 to re-open land traffic between the western zones and Berlin on condition that a four-power



The ceremony outside Spandau prison in Berlin when a French guard took over from British troops, Oct. 1949. In the prison were housed the seven nazi war criminals imprisoned by the International Military tribunal at Nuremberg on Oct. 1, 1946.

conference was held to discuss the problems of Germany and Austria as a whole. Thus the Soviet blockade aimed at wresting the western sectors of Berlin from the control of the three western powers was abandoned after being maintained for 10½ months. During the whole period the 2·5 million inhabitants of the western sectors had been supplied by the Anglo-American " air lift " which had flown 1,583,686 tons of supplies into Berlin by May 12, the date when the land blockade officially came to an end; 1,214,339 tons had been flown in by U.S. aircraft and 369,347 tons by British aircraft during this operation which was described by the British air minister as " the most outstanding transport operation in the history of aviation." The air lift did not cease immediately the blockade was lifted, but was allowed to run down gradually over a period of 4½ months. By the time it ceased altogether (on Sept. 30) 2,323,738 tons of food, coal, machinery and other commodities had been flown into Berlin over a period of 15 months. The record day of the air lift was April 16, 1949, when 12,342 tons were flown into the city in 1,344 flights. The cost of the operation up to May 12 was $170 million. (*See* also AIR FORCES OF THE WORLD.)

With the lifting of the blockade living conditions in western Berlin became once more relatively normal. The shops filled immediately with commodities of all sorts which flowed in chiefly from the western zones. Rationing of textiles and many other goods was abolished. Prices of vegetables dropped by as much as half. The supply of gas and electricity from the Soviet sector was resumed. And yet it soon became evident that western Berlin was faced—despite the lifting of the blockade—with a major economic crisis: a crisis of her producing industries.

This crisis had been latent in the condition of western Berlin since 1945 and aggravated by the currency reform and the blockade. West Berlin's industries suffered from a chronic lack of capital and of markets. The wholesale Soviet dismantling in 1945 had left the factories with a high proportion of damaged or out-of-date plant; the confiscation of Rm. 5,000 million in the Berlin banks had practically deprived the industries of capital; stocks of raw materials were almost used up during the blockade in the effort to keep the factories producing; and the lower value of the eastern mark, after the currency reform in 1948, gave Soviet sector and Soviet zone industries a big competitive advantage. In addition the precarious conditions in Berlin, even after the lifting of the blockade, made west German buyers reluctant to enter into contracts with west Berlin firms.

The result of this industrial crisis was twofold: the administration of west Berlin, the Magistrat, was faced with virtual bankruptcy in the shape of a budget deficit of Dm. 80 million monthly. Unemployment rose from 40,000 at the beginning of the blockade (June 1948) to 100,000 in Oct. 1948 and 250,000 in Oct. 1949.

The western Allies and western Germany had sent much help to sustain western Berlin during and after the blockade, amounting by Oct., 1949 to Dm. 680 million from G.A.R.I.O.A. (Government Appropriation and Releases in Aid of Occupied Areas) and Dm. 530 million from the west German states. Nevertheless it was clear that a catastrophic situation would soon arise unless a great effort was made by the west German republic to put western Berlin industrially on its feet again. Leading west German politicians advocated the incorporation of west Berlin in the West German Federal republic as twelfth state; but this proposal already embodied in article 23 of the West German constitution had been vetoed by the western Allied powers because it would have entailed widening the breach with the Soviet Union.

On Oct. 21, 1949, Fritz Schäffer, the minister of finance of the newly formed West German republic, announced a programme of help for western Berlin: substantial credits and government contracts were promised including the payment of the budget deficit until the end of the financial year; private firms in the western zones, likely to place orders in Berlin, were to be encouraged by federal government guarantees; goods manufactured in Berlin and sold to western zones buyers were to be exempted from certain indirect taxes; the supposedly lost banking accounts, the so-called *uralt Konten*, were to be revalued at 5%; a common west Berlin and western zones banking system was to be introduced; and Berlin was to be an equal, if not favoured, partner with Western Germany in receiving Marshall aid. Details in implementation of these proposals were to be worked out in Frankfurt and Bonn.

The so-called *modus vivendi* between east and west in Berlin, which had been agreed upon by the Council of Foreign

Ministers (*q.v.*) in Paris in May and June, was complicated by a strike of the western sector railwaymen who wanted to receive their wages in westmarks (May 20). The Berlin railways were administered by the eastern sector authorities who paid the railwaymen in eastmarks which had only about one-sixth of the value of the western currency. The strike developed into a struggle between the Independent Trade Unions (U.G.O.) of the western sectors and the Communist-dominated Free German Trade Union federation (F.D.G.B.), in the course of which shooting and casualties occurred. After intervention by the three western commandants the strike was brought to an end on the understanding that the east sector railway authorities would pay 60% of the west sector railwaymen's wages in westmarks and the west Berlin Magistrat would exchange the remaining 40% into eastmarks (June 26).

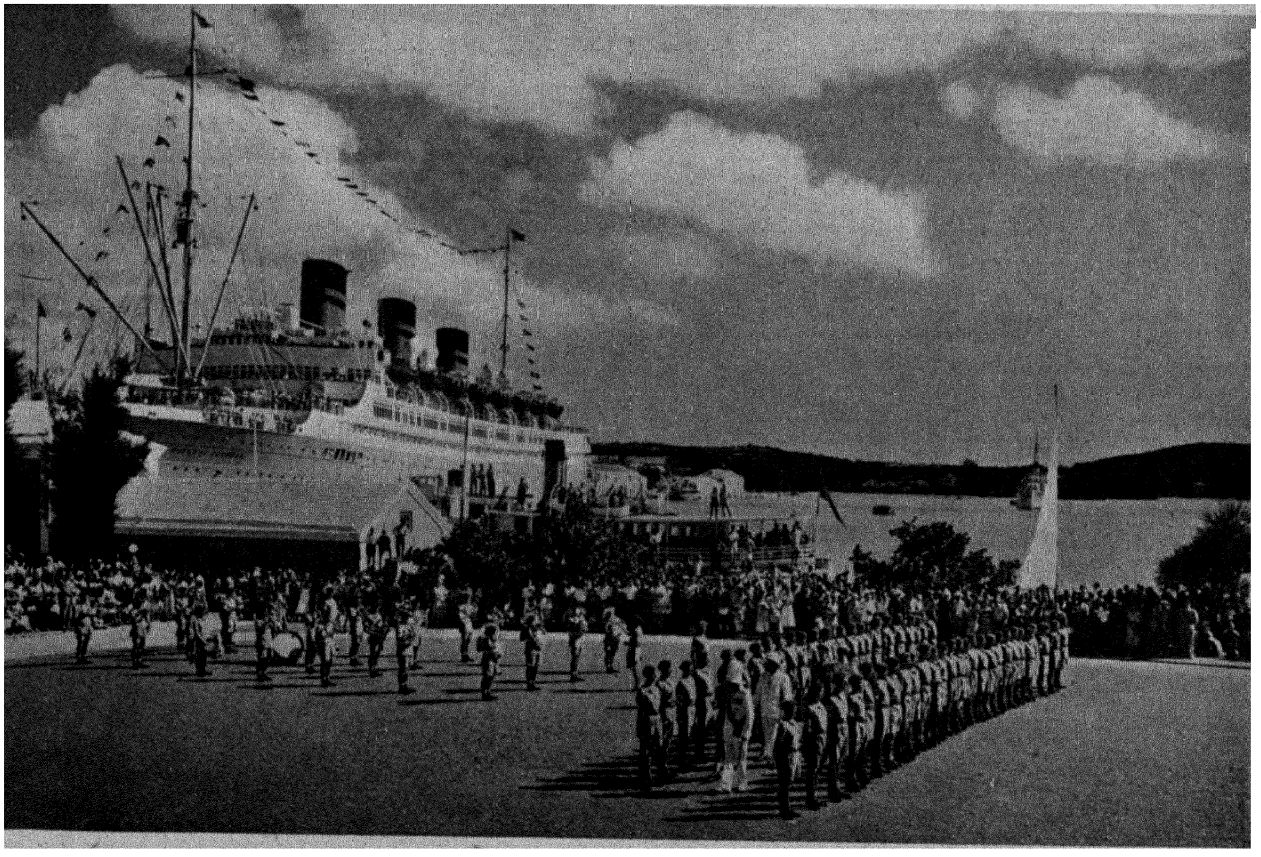
During 1949 the Soviet sector of Berlin remained under the administration of the Communist controlled east sector Magistrat. Its industries were geared up to the Soviet zone and enjoyed also a certain market in west Berlin at the expense of western sector industries. When the so-called German democratic republic was set up on Oct. 12 no attempt was made to incorporate into it the eastern sector of Berlin which—like the western sectors—remained outside the newly formed republics. (D. A. SN.)

BIBLIOGRAPHY. *Berlin Air Lift: An Account of the British Contribution*, prepared by the Air Ministry and Central Office of Information (London, 1949).

BERMAN, JAKÓB, Polish politician (b. Warsaw, Dec. 24, 1901), of middle class family, studied law at the University of Warsaw, taking active part in leftist students' clubs, while working as night editor in the Warsaw offices of the Jewish Telegraphic agency. In his early thirties he studied in Moscow at a special training school for Communist organizers abroad. A member of the executive committee of the outlawed K.P.P. (Komunistyczna Partia Polski, or Communist Party of Poland), he was arrested in 1937 at Nowy Sącz and sentenced in Warsaw to imprisonment for conspiracy against the state. In the meantime, in April 1938, the Comintern had dissolved the K.P.P. under the pretext that it was ridden with agents of the Polish military intelligence and Trotskyist " deviationists." Released from prison at the outbreak of World War II, Berman went to Moscow where he emerged as one of the organizers of the Union of Polish Patriots. He was also instrumental in creating in occupied Poland a new Communist (Workers') party. In the provisional government established at Lublin in July 1944 he was acting minister for foreign affairs. In the government of " national unity " formed in Warsaw on June 28, 1945, he became under secretary of state in the prime minister's office. He was also a member of the Politburo of the Communist party called after Dec. 1948 the P.Z.P.R. (Polska Zjednoczona Partia Robotnicza, or Polish United Workers' party).

BERMUDA. A British colony of some 300 small islands in the western Atlantic. Area: 21 sq. mi. Pop. (1947 est.): 35,560 including 13,026 white. Governor, Lieutenant General Sir Alexander Hood.

The Defence (Local Forces) act, which introduced peacetime conscription for the first time in the colony's history, was passed by both houses of the legislature. Currency smuggling and a possible dollar " black market " aroused concern. Plans for an agricultural production and marketing scheme were introduced and approved. The return of the



Lieutenant General Sir Alexander Hood inspecting the guard of honour at Hamilton, Bermuda, on Oct. 24, 1949, when he arrived to take over as governor and commander in chief of the colony. In the background is the " Queen of Bermuda."

luxury liner "Queen of Bermuda" to its prewar role of tourist carrier provided a fillip to the tourist industry.

Finance and Trade. Currency: based on sterling. Budget (1948): revenue £1,531,970; expenditure £1,531,762. Foreign trade (1948): imports £7,121,039; exports (visible) £955,406 Lilies form the only important domestic export and the economy of the colony is primarily dependent on the tourist industry, estimated to have been worth about £4,254,780 in trade to the colony in 1948. (J. A. HU.)

BETTING AND GAMBLING. On Feb. 10, 1949, the prime minister announced the appointment of a Royal Commission on Betting, Lotteries and Gaming, under the chairmanship of H. U. Willink, K.C., and the first public meeting was held in July.

Much of the groundwork had already been covered by the previous royal commission under Mr. Justice Rowlatt in 1933, but gambling is not static: it is constantly changing with social and economic trends. The growth of commercialized gambling, particularly on football pools, since 1933 and the desire of chancellors of the exchequer to tap such a lucrative source of revenue had given a new interest to the problem of gambling. The commission had been given wide terms of reference: they would probably be content to discover how widespread gambling was, whether it was harming the welfare of the nation and how the chancellor might benefit from more comprehensive taxation. During the year evidence was given by the Home Office, the Ministry of Labour, the Post Office, the Board of Trade, the Board of Customs and Excise, the Jockey club, Tattersall's, the Racecourse Betting Control board, Tote Investors, the Greyhound Racing association, the metropolitan commissioner of police, the Racecourse association, the chief metropolitan magistrate and the British Council of Churches. More evidence would be heard during 1950.

The outstanding fact was that so little statistical information about gambling could be obtained or verified. No one could state with any degree of accuracy the number of bookmakers, what number of people they employed or how large was their turnover in money. The owners of the totalizators on racecourses and dog tracks were obliged by law to disclose their turnover, and it was possible to assess the amount spent on football pools. But nothing was known of the business carried on by the bookmakers. They operated in competition with the pools and the totalizators, off the course and on the course, legally and illegally, and they were not obliged to publish accounts. The figures for the three main spheres of betting were:

	1948	1949
	(£ million)	
Totalizator at racecourses	£26	£25·8
Totalizator at dog tracks	£99·5	£94*
Football pools	£61*	£64*

*Board of Customs and Excise estimate

Football pools showed an increase despite the drop in pool firms from 135 to 120, and the totalizator on racecourses showed a decrease despite the increased number of days of racing from 645 to 685. The totalizator on the dog tracks, though showing a slight decrease over the year, was comparatively stable after the marked drop of some £36 million on the 1947 figures. The taxation imposed in the autumn budget of 1947 was the basic cause and diverted much of the money to the bookmakers. In addition the number of totalizators working on dog tracks had now dropped from 138 to 126. In Aug. 1948 a graduated tax on bookmakers operating at dog tracks came into operation. In the two-thirds of the year (Aug. 1948-March 1949) a total of £1·7 million was received from 138,000 bookmakers' licences. Their total turnover would not be less than £100 million for the year.

An accurate figure of the amount passing through the hands of the bookmakers was not, of course, known. In addition to the amount estimated as their turnover on the dog tracks there was the estimated turnover from horse-racing and other forms of betting. A voluntary organization called Everyman's Leisure had been investigating this question for two years and they estimated a total of £300 million as the turnover of the bookmakers. It is important to remember that a large part of this turnover does go back to the public. What proportion stays with the bookmakers is impossible to say. A figure of between 15% and 20% is usually deducted to cover expenses and to give a reasonable profit. The actual cost of the betting industry to the public is between £95-100 million a year.

In terms of labour the evidence given before the royal commission was of interest. The Ministry of Labour stated that 40,310 men and women were employed in the betting industry and were insured under the national health service. To this figure had to be added 5,000 employers and persons working on their own account. The football pools accounted for over 23,000. These figures did not include the large number of part time employees. Neither did they include persons employed in racing stables, training, transport to and from racecourses and dog tracks and breeding. Everyman's Leisure estimated that the total labour force, directly and indirectly connected with the betting industry, as not less than 180,000 men and women. (H. C. LN.)

United States. Gambling in 1949 was marked by fads and crazes. Ten-cent chain letters, one-dollar "pyramid clubs," $100,000 puzzle contests, $1,000 merchandise lotteries—all caused brief sensations. The post office declared the chain-letter scheme illegal, and the pyramid clubs were an effort to circumvent government disapproval by using the telephone instead. Each participant paid $1 and was promised an income of $2,048 when he reached the head of the list. Collections were made at a party to be given by the person at the head of the list. The craze spread throughout the country. State gambling laws were invoked without success, but the pyramid clubs soon collapsed under their own weight. There were not enough people to go round; if only one pyramid club had remained intact, at the end of 24 days it would have had to involve 268 million persons.

The merchandise lotteries were an effort to promote sales through puzzle contests based on those legitimately conducted, and approved by the post office, to secure contributions for charitable organizations. Prizes up to $25,000 were offered. The postal authorities stopped most of the disreputable "contest" lotteries through fraud actions that led to consent decrees.

Among card games the principal craze was the game canasta; but though it was by far the most popular new game of the year it was not widely used for gambling. Gin rummy remained the game played for the biggest stakes.

Betting on race-horses fell more than 10% from the 1948 levels, so far as betting on the course was concerned. The 20 states permitting totalizator betting recorded a turnover of $1,395,731,778, the sixth year in succession that the figure had exceeded $1,000 million. An expert estimate made toward the end of the year set the total amount bet on running races at $8,000 million, the majority of which was bet by 2 million regular gamblers, though there were six times as many occasional gamblers. The drop in totalizator action might have been due to the fact that there were only 2,167 racing days in 1949 as against 2,457 in 1948. Totalizator betting on harness racing increased to $205,216,832 in 1949 from $194,166,569 in 1948; this was legal in 12 states.

Despite the efforts of the Thoroughbred Racing Protective bureau (T.R.P.B.), there was proof of interference at race courses. The practice of running "ringers" (fast horses entered under the names of relatively slow ones) was thought to have been eliminated by the practice of tattooing each

horse, but a series of articles by M. MacDougall, a professional gambling investigator, exposed the continuance of such cases and the T.R.P.B. prosecuted and obtained confessions in three such cases; insiders, however, had already made a fortune by betting on the substituted horses. Milt Sosin, a reporter for the *Miami News*, Florida, secured photographic evidence that a spectator at the Gulfstream track was signalling race results to confederates who then bet with bookmakers who had not yet received the results by telegraph; the spectator was not prosecuted but was merely barred from the track.

The numbers racket, a form of lottery prevalent in large cities, flourished despite periodic clean-ups (as in Chicago in April and in New York in July), and despite widespread publicity that it was not honestly conducted. Slot machine gambling decreased. An investigation by a commission for Governor Earl Warren of California estimated a gross slot machine "take" of $4,000 million throughout the United States but other observers considered the figure high and thought that the actual loss of Americans to slot machines might run from one-tenth to one-quarter of that amount.

(A. H. MD.; M. ML.)

BEVIN, ERNEST, British statesman (b. Winsford, Somerset, March 9, 1881), became secretary of state for foreign affairs in the Labour government in July 1945, and in that capacity attended every important international conference after World War II. (See also *Britannica Book of the Year, 1949*).

During 1949 Ernest Bevin travelled twice to America: for the signing on April 4 of the North Atlantic treaty and for the first meeting of the council set up under the treaty which met in Washington on Sept. 17. After the signing in April he attended the adjourned United Nations general assembly at Lake Success, New York, and his visit in September began with Anglo-American-Canadian financial discussions in which he and Sir Stafford Cripps (*q.v.*) led the British delegation. He spoke in the general debate of the fourth general assembly on Sept. 26 and, while in America made a short visit to Canada. On May 5 he signed the statute of the Council of Europe and in August attended the meetings of its committee of ministers at Strasbourg. He visited Berlin in May where he congratulated those who had taken part in the air lift during the Berlin blockade which was raised on May 12 and was present at the Council of Foreign Ministers which met in Paris from May 23 to June 20. He also attended meetings of the consultative council of the Brussels treaty powers—the meetings being held in each of the capitals of Great Britain, Belgium, France, Luxembourg and the Netherlands in turn—and in November again visited Paris for the committee of ministers of the Council of Europe and for a two-day conference on international affairs with Robert Schuman (France) and Dean Acheson (United States). On Dec. 27, he left London for Colombo for a meeting of the Commonwealth foreign ministers.



Ernest Bevin, with Hector McNeil, minister of state, at the United Nations general assembly, Flushing Meadow, New York, which opened on Sept. 20, 1949.

BHUTAN. A semi-independent state in the eastern Himalayas lying between Tibet and India. Area: *c.* 18,000 sq. mi. Pop. (est.): 300,000. Language: a dialect of Tibetan. Religion: mainly Buddhist. Capital: Punakha. Ruler: Maharaja Jigme Wangchuk.

History. The state of Bhutan acquired during 1949 some importance as a barrier against Chinese Communism. As a result of negotiations started at Delhi in April 1948 between K. P. S. Menon, secretary to the Indian ministry of external affairs, and Debzunpon S. T. Dorji, head of the Bhutanese delegation, the Indian government concluded a new treaty with Bhutan which confirmed the old relationship, India agreeing to increase the annual subsidy from two to five lakhs of rupees (£37,500). The Bhutanese delegation had asked for eight lakhs. (W. BN.)

Agriculture. Main crops: rice, musk, Indian corn and millet. Livestock: elephants and ponies.

Production. Wax, different kinds of cloth, chowries, guns and swords.

Foreign Trade. Total trade with India (1948) estimated at over £65,000. Monetary unit: *rupee*.

BIDAULT, GEORGES, French statesman, (b. Moulins, Allier, France, Oct. 3, 1899), a leader of the M.R.P. (Mouvement Républicain Populaire, a French version of the Christian Democratic movement). He was minister of foreign affairs from Sept. 9, 1944, to July 19, 1948, and prime minister from June 19 to Nov. 28, 1946. (For his early career see *Britannica Book of the Year 1949*).

On Oct. 28, 1949, he was invested by the National Assembly as prime minister by 367 votes to 183. Immediately afterwards he announced the formation of his coalition cabinet (the 6th of the Fourth Republic and the 11th since the liberation), thus bringing to an end the longest cabinet crisis that post-war France had known (*see* also FRANCE).

BIERUT, BOLESŁAW, Polish politician (b. Rury Jezuickie, near Lublin, April 18, 1892), provisional president of the republic from June 1945, was elected president by the parliament or Sejm on Feb. 5, 1947. (For his early career see *Britannica Book of the Year 1949*).

The merger congress in Warsaw on Dec. 15-22, 1948, elected him chairman of the new Polish United Workers' (Communist) party. On April 19, 1949, before the central committee of the party, he stressed that its main task in the struggle for peace was to fight resolutely against class enemies and foreign agents and the country must remain a faithful ally of the U.S.S.R. On Oct. 15, replying to a letter from Wilhelm Pieck and Otto Grotewohl informing him of their election as president and prime minister of the German Democratic republic, he expressed the satisfaction of the Polish people that this republic regarded the Oder-Neisse line as the "frontier of peace." On Oct. 28, 10th anniversary of the "plebiscite" in eastern Poland, he sent telegrams to N. S. Khrushchev and N. I. Gusarov, secretaries

general of the Ukranian and Byelorussian Communist parties, congratulating them on the territorial unification of the Ukraine and Byelorussia respectively.

BILLIARDS AND SNOOKER. The premier professional event of the 1948–49 season, the world's professional snooker championship was won, after a stern struggle lasting a fortnight, by Fred Davis, who beat Walter Donaldson by 80 frames to 65. Each of these players had won the championship once after Joe Davis' victory in 1946–47, when the latter player retired from championship play. The big tournament of the year, the *Sunday Empire News* £1,000 Snooker tournament, was won by Joe Davis. The amateur billiards championship was carried off, after 20 years of effort, by the popular Frank Edwards (Stourbridge), a player of exceptional artistry. He beat Joe Tregoning (Neath) in the final by 4,813 points to 3,297. The snooker championship was won by Tom Gordon (London), who beat Sidney Kilbank (Leeds) after winning no less than ten previous matches.

The professional snooker championship for 1949–50 would be played in the provinces, instead of London, to enable wider audiences to attend. Willie Smith, the great veteran billiards player and Sidney Smith, 1946–47 winner, were to return to the professional billiards championship, in which three younger players would compete. Entries to the amateur championships, billiards and snooker, had never been so high as in the past four years. (R. N. H.)

United States. Willie Hoppe captured his fifth world three-cushion championship in 1949. The other major billiards title, the world pocket championship, was won by Jimmy Caras of Upper Darby, Pennsylvania, who scored four victories and lost twice. The United States pocket billiards title also went to Caras, with Crane second and Andrew Ponzi, of Philadelphia, third. In the amateur field, Edward Lee of the New York Athletic club retained his national three-cushion title. (P. Br.)

BIOCHEMISTRY. Notable progress was reported in 1949 in determining the intermediates in the chemical reactions by which the green plant under the influence of sunlight converts CO_2 and H_2O into O_2, sugar and other reduced carbon compounds. By growing plants in water which contained the O^{18} isotope, bio-chemists showed that the primary conversion of energy brought about by light involves the photolysis of water with the production of O_2. The subsequent reduction of CO_2 takes place in the dark as well as in the light.

In order to elucidate the path of carbon, growing algæ were allowed to photosynthesize in the presence of radioactive $C^{14}O_2$ for a limited time (5 sec. to 5 min.) and the reaction was stopped by dropping the plants into hot alcohol. The radioactive organic compounds which are progressively formed in increasing time intervals were identified by the newly developed methods of paper chromatography and radioautography. In these techniques substances are identified in terms of the distance which they migrate on a sheet of absorbent paper under the influence of a spreading solvent, and the positions of radioactive substances are determined by the darkened locations of an X-ray film subsequently placed in contact with the absorbent paper.

The first compound into which the radioactive CO_2 is fixed was found to be 2-phosphoglycerate; after 5 sec. at room temperature, four more compounds were found, 3-phosphoglycerate, malate, aspartate and phosphoyruvate. After 30 to 90 sec. there were many additional compounds of which 15 were identified including sucrose, the first free sugar, several amino acids, alanine, serine and glycine, glycolate and the phosphates of fructose and glucose. These compounds all contained 2, 3, 4 or 6 carbons in a chain. By selective degradation, the position of the radioactive carbons in several compounds was determined, and detailed mechanisms were worked out for the progressive entrance of CO_2 into increasing fractions of several molecules. Thus in sucrose, the radioactivity was found first in the middle carbons 3 and 4 of the hexose chain, later in carbons 2 and 5, and finally also in carbons 1 and 6.

The first photosynthetic reaction was thought to be the condensation of CO_2 with some reactive 2-carbon phosphorus-containing intermediate, probably vinyl-phosphate, to form 2-phosphoglyceric acid. After conversion to phosphopyruvic acid, another molecule of CO_2 is added to form the 4-carbon oxalacetic acid, from which other 4-carbon compounds are formed, malic, aspartic, succinic and fumaric acids. One of these was thought to be split to form two 2-carbon intermediates, from which the 2-carbon vinyl-phosphate was regenerated to start the cycle over again. The hexose chain is thought to be formed by a reversal of the well-defined glycolytic cycle, the condensation of two triose-phosphates to form fructose-diphosphate.

Experiments were reported which showed that no more than four quanta (possibly only three) of red light, or a maximum of $4 \times 44{,}000 = 176{,}000$ calories of light energy, were required to produce one mole of oxygen gas equivalent to about 112,000 calories. This makes the efficiency of energy transformation at least 65%. (For three quanta the efficiency would be 85%). This refutes a prevailing view based on numerous experiments, that at least ten quanta are required for each mole of O_2, which would mean an efficiency of less than 25%, and confirms a claim originally made for the higher efficiency by Otto Warburg in 1923. The high efficiencies were realized by illuminating a *Chlorella* suspension with white light of such intensity that photosynthesis just balanced respiration, and no net oxygen was evolved. A measured amount of red light was admitted and the increased oxygen corresponding to this red light, was measured.

Following the observation that the micro-organisms *Tetrahymena geleii* requires purines, and especially guanine, it was found that a modified purine, in which the NCN sequence of the 5-membered ring of guanine was replaced by NNN, was a powerful competitive inhibitor for guanine in the growth of this micro-organism. The name triazole was used to designate this type of compound and the guanine derivative was called guanazolo. The inhibition index was 0·075, which meant that 13 to 14 molecules of guanine were required to overcome the inhibition of one molecule of guanazolo. Normal mammalian cells have the capacity to synthesize their own guanine requirement. It was thought that if tumour cells were deficient in this capacity, then the administration of guanazolo, which emphasizes a guanine deficiency, might have a selective action in inhibiting the growth of tumour tissue, without interfering with normal growth. Repeated administration of guanazolo to mice over a three-day period did not have toxic effect. When 0·5 mg. of guanazolo was injected subcutaneously twice daily into mice with adenocarcinoma, a definite inhibition of the tumour growth was observed. Tumour size was reduced from 11 ml. size in the controls which received injections of saline, to 1 ml. size in the guanazolo treated animals, where it remained stationary for 20 days while the guanazolo was continued. The tumours resumed growth when injections ceased. Similar observations were made on spontaneous mammary cancer in mice, and in mouse lymphoid leuchæmia. In the latter condition, guanazolo caused a definite decrease in white blood cell count, in the percentage of lymphoblasts and in the number of palpable tumour masses, as compared with control untreated mice. Tumour cells probably have an altered guanine metabolism, rendering them unable or less able than normal cells to synthesize this purine. (M. E. H.)

BIOLOGY: *see* BACTERIOLOGY; BIOCHEMISTRY; BOTANICAL GARDENS; BOTANY; ENDOCRINOLOGY; GENETICS; MARINE BIOLOGY; PALÆONTOLOGY; PHYSIOLOGY; ZOOLOGY.

BIRLEY, ROBERT, British educationalist (b. India, July 14, 1903), was educated at Rugby school and at Balliol college, Oxford, taking first class honours in history and winning the Gladstone memorial prize in 1924 with an essay on the English Jacobins. He became an assistant master at Eton college in 1926; when, in 1935, he was appointed headmaster of Charterhouse school in succession to Frank Fletcher, he was one of the youngest men ever to occupy such a post at a leading public school. He was a member of the Fleming committee on public schools and from 1947 to 1949 was educational adviser to the Control Commission for Germany where he was responsible for co-ordinating and supervising the re-education work in the British zone and in the British sector of Berlin. On Dec. 18, 1948, it was announced that the provost and fellows of Eton college had appointed him headmaster on the retirement of C. A. Elliott. Robert Birley took up his duties at Eton in Sept. 1949. In March 1949 he was given an honorary degree of doctor of engineering by the Technical university of Berlin. On Oct. 23 he broadcast the first of the Reith lectures for 1949. His subject for the four talks was "Britain in Europe: Reflections on the Development of a European Society." He was created a C.M.G. on Jan. 1, 1950.

BIRTH STATISTICS: *see* VITAL STATISTICS.

BISMARCK ISLANDS: *see* TRUST TERRITORIES.

BOLIVIA. A land-locked republic in central South America. Area: 416,040 sq. mi. Pop. (mid-1948 est.): 3,922,000; one-third of the population is concentrated in the province of La Paz covering one-eighth of the total area. The legal capital is Sucre (pop., 1946 est., 32,000); the actual seat of government is La Paz (pop., 1946 est., 301,000). Other chief towns (pop., 1946 est.): Cochabamba (80,000); Oruro (50,000); Potosí (40,000). Estimated racial distribution: Indian 52%; *mestizo* 28%; white 13%; Negro 0·2%; unspecified 6 8%. Language: Spanish, but the Indians speak Quechua and Aymara. Religion: predominantly Roman Catholic. President of the republic in 1949: Enrique Hertzog, until May 7; Mamerto Urriolagoitia, acting president May 7-Oct. 19, thereafter constitutional president.

History. Political tension and violence, intimately linked with mounting labour unrest at the tin mines, characterized the Bolivian scene during 1949. The government was bitterly opposed by the leftist Partido de la Izquierda Revolucionaria (P.I.R.) and the rightist Movimiento Nacionalista Revolucionario (M.N.R.), both organizations being engaged in rivalry for political leadership of the miners' unions. President Hertzog declared a state of siege on Feb. 20, when the government unearthed a revolutionary plot sponsored by the M.N.R. After the congressional election of May 1, which gave the administration's Republican Socialist Union party a majority of the seats in the national legislature, Hertzog pleading reasons of health, requested a leave of absence. He was replaced on May 7 by Acting President Urriolagoitia.

Urriolagoitia decided in May to deport Senator Juan Lechin and 19 other M.N.R. leaders because of M.N.R.-led agitation among workers at the Catavi and Siglo Uiente tin mines. On May 28, unions at both mines staged a strike in protest against the deportation order. The stoppage was characterized by violent disorders at Catavi, where two U.S. mining engineers and about 50 Bolivian miners lost their lives. The government again proclaimed a state of siege on May 31, issued a general mobilization call and outlawed the opposition M.N.R. and P.I.R. parties and also the Communist party. The strike became general on June 1, when an estimated 8,000 organized factory and railroad workers walked out in sympathy with the miners, and grew until it involved some 27,000 organized workers. At length, on June 8, representatives of the government and the unions agreed to terminate the stoppage, the settlement calling for a reduction in the military forces stationed at the tin mines and the repatriation of Lechin and other exiled M.N.R. leaders.

An uneasy truce was broken on Aug. 27, when rebels led by the M.N.R. seized the cities of Cochabamba, Santa Cruz, Potosí, Oruro and Sucre. The revolt spread until the insurgents could claim on Sept. 1 that they controlled 2,000 troops and the western third of the country, embracing approximately 125,000 sq.mi. and a population of about 500,000. The bulk of the army remained loyal to the government, however, and by Sept. 3 loyalist forces had recaptured all major rebel strongholds except Sucre, Potosí and Santa Cruz. Sucre and Potosí fell to the loyalists on Sept. 4 and the insurgents abandoned Santa Cruz on Sept. 13. Acting President Urriolagoitia announced nine days later that the revolt had been crushed and that "the country has now returned to normality." Hertzog, his health broken, submitted his formal resignation from the presidency to congress on Oct. 19. (G.I.B.)

Education. (1944 est.) Schools: elementary 1,740, pupils 144,060; secondary 55, pupils 17,500. Universities 5

Agriculture. Main crops ('000 metric tons, 1947-48): wheat 14; barley 60, maize 150; potatoes 402. Livestock ('000 head) cattle (1946) 3,039; sheep (1948) 4,289; horses (Jan. 1949) 442, asses and mules (1947) 403

Industry. (1947) Manufacturing establishments 400; persons employed 15,000. Fuel and power: electricity (million kwh., 1947) 145; crude oil (metric tons, 1948) 58,280 Raw materials (exports in metric tons 1948): copper 6,620; lead 25,620, zinc 21,090; tin 37,900.

Foreign Trade. (1948) Imports U.S. $67 million. Exports $123 million The principal export is tin accounting for 65% of all exports in 1948 Main destinations of exports (1947) United States 60%, United Kingdom 36% Main sources imports (1947): United States 49%, Argentina 20%, Peru 11%

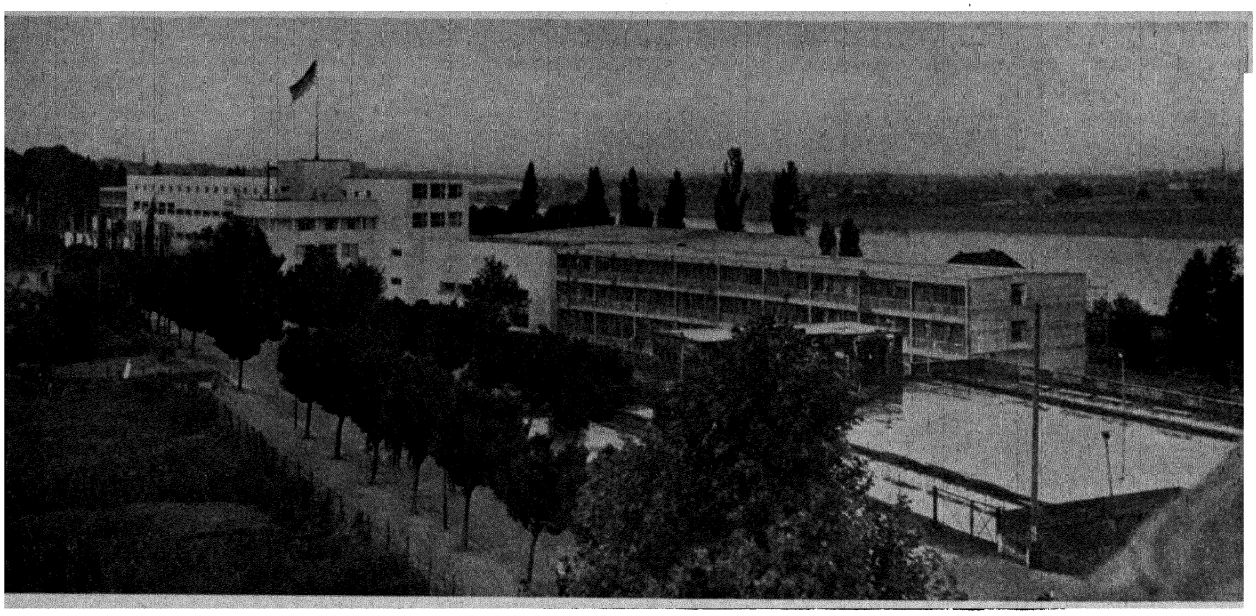
Transport and Communications. Roads (1947). 6,300 mi. Licensed motor vehicles (Dec. 1948): cars 3,845, commercial vehicles 7,845. Railways (1947) 1,454 mi. Telephone instruments (1947): 7,700. Wireless licences (1944) 40,000.

Finance and Banking. Budget (million bolivianos) (1948 est.) revenue 1,497, expenditure 1,497; (1949 est.) revenue 1,795, expenditure 2,046. National domestic debt (Dec 1948, in brackets Dec. 1947) 1,930 (1,347) million. Currency circulation (June 1949; in brackets June 1948). 2,148 (1,782). Gold reserve (June 1949; in brackets June 1948) U.S. $22 8 (22·7). Bank deposits (June 1949; in brackets June 1948). 1,356 (1,037). Monetary unit *boliviano* with a controlled selling exchange rate (Dec. 1949; in brackets Dec. 1948) of 118·8 (171·0) bolivianos to the pound.

BONAIRE: *see* NETHERLANDS OVERSEAS TERRITORIES.

BONN, a town on the left bank of the Rhine, 15 mi. south of Cologne, provisional capital of the German federal republic (Western Germany). Pop.: (May 17, 1939, census) 101,391; (Dec. 1949 est.) 110,000.

When the Parliamentary council assembled at Bonn on Sept. 1, 1948, to prepare a new German constitution, it was generally assumed that the provisional capital of Western Germany would be Frankfurt-on-Main, for long the place of election of the German emperors and seat of the first German parliament in 1848. But on May 23 the Western German republic was proclaimed at Bonn, and there also, on Sept. 7, was convened the newly elected parliament. On Sept. 30 the Bundestag decided, by 196 votes to 169 with 3 abstentions, to refer to a commission of enquiry the question whether Bonn or Frankfurt should become the provisional capital of the German federal republic. Although the commission reported that the choice of Frankfurt, with its greater accommodation facilities both for government offices and private dwellings and its better communications, would result in economies estimated at DM.100 million, the Bundestag decided on Nov. 3, by 200 votes to 176 with 11 abstentions, to retain Bonn as the provisional capital.



The Bundeshaus (parliament building) at Bonn. The building was specially extended in 1949 to house the Bundesrat and the Bundestag of the West German federal government.

The new sanatorium-like *Bundeshaus*, or house of parliament, was formerly a modern teachers' college. It was completely overhauled and a new office wing, an assembly hall and a restaurant were added. Dr. Theodor Heuss (*q.v.*), the president of the federal republic, was housed at Viktorshöhe, near Godesberg, but for big official occasions he was to use the beautiful rococo Schloss Augustusburg, near Brühl. The question of Bonn's communications had caused some anxiety but by November the new bridge spanning the 800-yd. wide Rhine was finished and the new capital was connected with the Frankfurt-Cologne *Autobahn* by a broad new highway. Also an extra siding was built at Bonn on the Cologne-Mainz railway line to handle the increased traffic. As a third of Bonn's houses had been destroyed by air bombing the housing problem was acute and was being solved by repairing the old and building new dwellings. A well known Berlin architect, Max Taut, was in charge of a settlement for government officials on the Venusberg. Altogether, by Nov. 1, about DM.15·5 million had been spent by the government alone in building and other works in order to transform this quiet university city into a German Canberra. Dr. Hermann Wandersleb was the chief planner.

On Nov. 27 a new municipal theatre, in place of the one destroyed in an air raid in 1944, was opened. Bonn had many new cinemas, *Konditoreien* (coffee houses) and restaurants with music but no night clubs were authorized. The headquarters of the Allied High commission were on the 2,000 ft. Petersberg, in a former luxury hotel, on the right bank of the Rhine, a few miles to the southeast of Bonn.

BOOK COLLECTING AND BOOK SALES.

Most collectors do most of their buying from booksellers; and the activity of both fraternities is geared to some extent to the auction season which lasts from early October to early July in London and is somewhat shorter in New York. The most distinguished sale held anywhere during the 1948-49 season took place in Dec. 1948, but the results of the most significant event of 1949—the devaluation of most European currencies in terms of the dollar—could hardly be estimated before the end of the 1949-50 season.

The collection formed in Paris by Cortlandt Field Bishop was sold not in London or Paris or Geneva, but in New York. It was full of beautiful continental books (the 18th century predominating over the 17th and 16th) of a kind and quality not seen in such profusion since the Rahir sales of 1930 and 1931, and the incongruity of its place of dispersal was reflected in the fact that about 80% of the books were bought by continental dealers. Other notable American sales were provided by the libraries of Fritz Kreisler and Frank Capra; and the outstanding single object sold during the year (for $54,000) was the Bliss ms. of Lincoln's *Gettysburg Address*, the fifth and final draft, signed in full. London auction sales were steady in volume, more than steady in price level, but unspectacular. Further instalments of the Landau library appeared; a beginning was made on the enormous mass of Sir Leicester Harmsworth's Americana; George Bernard Shaw showed a shrewd appreciation of the value added to books from his shelves by notes and inscriptions from his own pen; and the 27th portion of the library of Sir Thomas Phillipps marked the end of the sixth decade since dispersal of that huge hoard began. The fact that the whole remainder of the Bibliotheca Phillippica had been bought some years ago by a London bookseller was publicly confirmed by his issue of a catalogue of some of the contents.

The normal flow of rare books from the continent to Great Britain had been almost completely dammed from 1939 to 1948, though an increasing traffic direct to America had been operating from 1946, mostly through emigré dealers in New York. During 1949 British booksellers and collectors found things a little easier; and some considerable holes were made in the *zareba* of exchange control regulations, import licences, etc., which isolated the country from the rest of Europe. Practical and concerted measures for enlarging these holes were among the agenda at the first plenary session of the International League of Antiquarian Booksellers held in London in September; and it was hoped that London's once pre-eminent position as an *entrepôt* of the antiquarian book trade might be at least partially retrieved.

Among British collectors the cyclic fashion for "press books" continued to ebb while the taste for bird and flower books, so strongly marked after World War II, seemed as vigorous as ever. Really fine 18th century first editions were scarce, 19th century scarcer, with fiction most difficult of all. The revival of general interest in calligraphy noticeably affected the prices asked for even mediocre writing books: those in good condition, because of their function, are

naturally always scarce. The market in "modern firsts" was brisk but well spread and showed few symptoms of hysteria or speculation. (J. CR.)

Europe. Austrian dealers reported that, whereas formerly it had been possible to secure rare books in exchange for black-market staples, such trading had disappeared as a result of 1948 monetary reforms. Favoured by the newly decreed freedom of trade, the antiquarian book business in Western Germany showed stability, although east-to-west trade remained difficult. Leipzig, traditional book centre of Germany, was considered lost by western Germans who set out to establish a new centre in the west. Switzerland, which had enjoyed an increase in business representing that portion formerly executed by German dealers, reported a falling off as the German trade was re-established. In general, European dealers discovered that as living conditions improved they were able to buy fewer rarities from private owners.

United States. Sales of book collections in 1949 were fairly pedestrian. A notable exception was the auction in New York of the Fritz Kreisler collection of early printed books and manuscripts which realized $120,272.

The highest auction price for a single piece was $54,000 paid (Parke-Bernet galleries, Inc., New York, April 27) for the Bliss copy of Lincoln's *Gettysburg Address*. Purchaser of the manuscript was Oscar B. Cintas of Havana, Cuba. Four other copies of the *Address* are known: two in the Library of Congress, one in the Illinois State Historical library, one in Cornell university library. This last was presented to the library in June by Nicholas H. Noyes of Indianapolis, Indiana.

It was announced that Mark Twain's private papers, including unpublished manuscripts, would be given to the University of California as a legacy by the author's only surviving issue, Mrs. Jacques Samossoud. Another important collection, the papers of James Boswell, gathered by Colonel Ralph H. Isham, was acquired by Yale university libraries as a partial gift and would serve as the basis for the definitive edition of Boswell's writings. The Olive Branch Petition, the appeal addressed to King George III by the American Colonies in an effort to resolve the differences that brought on the American Revolution, was presented to the New York Public library by Lucius Wilmerding.

On March 31 a group met in New York and established the Antiquarian Booksellers' Association of America. Regional chapters were established or projected in Los Angeles, New York city, Philadelphia, Chicago and Boston.

Devaluation of the pound seemed to have failed to increase trade between U.S. and British dealers. In the United States it was believed by many that since British prices were based on the dollar there could be small revisions in pricing. With devaluation, some British dealers revised prices upward.

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BOOK PUBLISHING. In Great Britain 1949 was the year in which book publishing, which had assumed some strange patterns during the preceding ten years, was restored to its normal appearance. On March 6 the rationing of paper for books (which had been introduced nine years earlier, on March 3, 1940) came to an end. This long-awaited liberation from governmental control came too late to cause much jubilation. Already by that date paper rationing had ceased to be a real problem for the vast majority of publishers, all of whom were now more concerned with steadily mounting manufacturing costs at a time when any proportionate rise in selling price to meet those costs would be particularly unwelcome. Publishers had to base the selling price of a book on the number of copies they could reasonably hope to sell in relation to the costs of manufacture. During the years of book shortages every publisher knew that he would sell practically every copy of every title he could manufacture and he fixed his prices accordingly. The result was that during those years such increase in published price as occurred bore little relation to the increase in costs. By 1949, however, there was no shortage of books. Students and other specialist users of books might still find difficulty in securing a particular book; but the general reader's requirements were abundantly catered for. After having been unconsidered for nearly a decade the element of risk once again re-occupied its important place in publishers' calculations. Books that had failed to find a purchaser began to accumulate in the bookshops and the burning trade question throughout the year was this matter of "overstocks"

Despite all this, the publishing business continued quarter by quarter to beat all previous records. The amount of trade done by publishers in 1948 reached the unprecedented figure of £33,241,431. (The prewar average annual total was approximately £10 million.) During the first six months of 1949, publishers' total sales amounted to £15,849,367, an increase by over £400,000 on the turnover during the corresponding period of 1948. Since book trade business is invariably greater during the second half of the year than in the first, there was little doubt that the 1949 total would surpass the 1948 record. An analysis of publishers' output made by the book trade paper, the *Bookseller*, showed the average price of books published during the first six months of 1949 to be 10*s.* 11*d.* In the following six months the average price was 11*s.* 4*d.*

Total turnover figures do not by themselves reflect the prosperity of the book trade but must be considered in relation to the number of titles over which the business is spread. The table shows the turnover figures for the 12 years 1937-48 in conjunction with the total number of titles (including reprints and new editions) recorded by the *Bookseller* for those years.

BRITISH BOOK PUBLISHING TURNOVER FIGURES

Year	Turnover	Titles recorded
1937	£10,507,204	17,137
1938	£10,706,018	16,219
1939	£10,321,658	14,904
1940	£9,953,196	11,053
1941	£13,986,700	7,581
1942	£16,735,900	7,241
1943	£19,290,800	6,705
1944	£20,500,516	6,781
1945	£21,979,554	6,747
1946	£26,961,622	11,411
1947	£30,203,763	13,046
1948	£33,241,431	14,686

The production of books in Great Britain during 1949 was 17,034 titles, of which 5,110 were reprints and new editions. The total was considerably greater than the output for recent years and was very little short of the figure for the record year 1937 (17,134 titles). The notable increase in the output of titles was watched with growing apprehension by the book trade, which painfully recalled that the worst of its misfortunes during the difficult 'thirties had been due to over-production of new titles. On the other hand, some postwar expansion of the book lists was inevitable and indeed desirable. Of the year's 5,000 reprints many were badly needed to replace the standard works which were casualties of the paper shortage; and of the 12,000 new books published during 1949 a substantial number were books arranged for in previous years, whose appearance had had to wait the easing of paper, printing and binding difficulties.

The amount of export business done by British publishers in 1948 was £8,739,236, or 26·3% of the total. The largest

overseas market for British publishers, Australia, was worth well over £1½ million in 1949. Other overseas markets in order of importance were: South Africa, India, U.S.A., New Zealand, British Africa, Scandinavia, Ireland, Canada, middle east, Netherlands, central Europe, France, Malaya, South America, British West Indies, Belgium, Italy, Switzerland, Asia, the Balkans, Spain, Portugal, Germany, Africa (non-British), central America and Iceland.

Europe. Publishers in European countries as well as in Great Britain found themselves enjoying in 1949 a relief from the shortages of raw materials that had restricted their activities for so long and, in spite of a shortage of printing plant that still prevailed in a number of countries, were able to allow their own tastes and traditions in style rather than considerations of economy to govern their book production.

During the year official reports from eastern Europe claimed that book production was flourishing under the new regime and that demand had never been higher. The most detailed account of the book trade in any of these countries was provided by the Czechoslovak Publishing act, passed in March 1949, which invested in the Ministry of Information and Public Culture full powers to plan and direct book publishing and bookselling to the exclusion of all independent production and distribution.

Although there were now fewer obstacles to book production in Europe, those which impeded the free flow of books from country to country, such as tax barriers, import restrictions, etc., remained formidable. The removal of some of these barriers was one of the principal concerns of the United Nations Educational, Scientific and Cultural organization, and at the Cultural conference of the European movement, held at Lausanne in Dec. 1949, the conference unanimously declared its conviction that it was "vital to the well-being of Europe that all such restrictions should be swept away." (E. Se)

United States. Title production in 1949 was 10,892 (9,897 in 1948), the highest total since 1941. The largest increase over the preceding year was in the category of sociology and economics, followed by books on science, business, biography and domestic economy. The decreases appeared in the fields of music, and domestic and military subjects. The number of fiction titles was 1,644 (1,643 in 1948), but there were fewer new titles and more new editions.

Based on trade sales alone, the list of fictional best sellers for 1949 was headed by *The Egyptian*, a novel laid in ancient Egypt and translated from the Finnish of Mika Waltari. This was followed by Lloyd C. Douglas' *The Big Fisherman*, which moved from first place in 1948 to second place in 1949; in third place came Sholem Asch's *Mary*. First on the list of non-fiction best sellers, rated by trade sales alone, was *White Collar Zoo* by Clare Barnes, Jr., a series of animal photographs humorously captioned to relate them to familiar office types and office situations; its immediate success brought a sequel in *Home Sweet Zoo*, which proved another best seller.

Although non-fiction sales through the book stores were larger in 1949 than fiction sales, five of the ten non-fiction best sellers were not literary books: two were picture books and three were instruction on how to play canasta, a new and very popular card game.

In 1949, as in 1948, books with a religious or biblical interest accounted for two of the fiction and four of the non-fiction best sellers.

BORNEO: *see* BRITISH BORNEO; NETHERLANDS OVERSEAS TERRITORIES.

BOTANICAL GARDENS. The long summer drought of 1949 caused some losses in the larger gardens, particularly in the south of England. Many bulbs and shrubs, however, that benefit from a warm summer, gave an unusually fine display.

At the Royal Botanic gardens, Kew, Dr. J. Hutchinson retired from the keepership of the museums after 44 years' service at Kew. He was succeeded by Dr. F. N. Howes. The director, Sir Edward J. Salisbury served as a vice president of the Royal Society as well as being its senior secretary. Work in the Herbarium returned to, or even exceeded, prewar quantity and quality and the *Kew Bulletin*, no. 1, 1949, reported that over 35,000 specimens were received during 1948. Three further important papers on the "Classification of the Bananas" by E. E. Cheesman of the Imperial College of Tropical Agriculture, Trinidad, were published in the *Kew Bulletin*, nos. 1, 2 and 3, 1949. Determinations of plants from collections by P. H. Davis in the Mediterranean and the near east as well as from the collections of Christopher Sandeman in South America and those of the Oxford university expedition in Sarawak were also given in the *Kew Bulletin*.

In South Africa continued efforts were made for the preservation of the rarer members of the native flora and a large collection of these were grown in the National Botanic gardens at Kirstenbosch, Cape Province, from which many South African plants and seeds were sent out to other institutions during the year.

A number of notable plants flowered during 1949 in the Edinburgh Botanic garden and a further part of the revision of the Series of Rhododendron was prepared by the assistant keeper, Dr. J. Macqueen Cowan and H. H. Davidian and published in the *Rhododendron Year Book*, no. 3, 1949, of the Royal Horticultural society. This section dealt with the Campanulatum and Fulvum series.

At the Wisley gardens, belonging to the Royal Horticultural society, the blooming of late summer South African bulbous plants such as *Amaryllis Belladonna* and *Nerine Bowdenii* was unusually fine. A tetraploid form of the scarlet *Salvia splendens* was produced by the Cytological department at Wisley and showed more vigour and size than the diploid plant. This was shown for the first time during the year under the name *Wisley Tetraploid*.

In Berlin, progress was made in the reconstruction of the botanical garden and museum at Dahlem under the directorship of Dr. R. Pilger, and a report on the portion of the scientific collections that was saved was published in the *Kew Bulletin*, no. 2, 1949. (P. M. Se.)

United States. A new arboretum was initiated by the park department of Spokane, Washington. A tract of nearly 100 ac. was set aside for this purpose. Various organizations in Denver, Colorado, were working very hard to have an area of one of the city parks set aside for an arboretum. The tract under consideration included nearly 100 ac. of park land between the Museum of Natural History and the Zoological garden.

No major changes occurred in the larger arboretums and botanical gardens of North America during the year, but the Lexington Botanic garden at Lexington, Massachusetts, was being discontinued owing to lack of operating funds. (*See* also HORTICULTURE.)

BOTANY. During 1949 all branches of the science contributed to an imposing bulk of published research in which notable advances were reported in the study of antibiotics, plant diseases and palæobotany. (*See* PALÆONTOLOGY.)

The Botanical Society of the British Isles commenced publication of a new periodical *Watsonia* for contributions bearing on the taxonomy and distribution of British vascular plants and charophytes. The discovery of *Myriophyllum verrucosum*, an Australian aquatic, was reported from gravel

pits in Bedfordshire and it was suggested that the plant was introduced with wool shoddy which is extensively used in the neighbourhood as manure. *Equisetum ramosissimum*, a native of the Mediterranean basin and southern Europe, was recorded from a locality in Lincolnshire. The society also published a report of a conference on British flowering plants and modern taxonomic methods, which contained observations by experts on critical groups.

The Linnean society and the Systematics association held a joint meeting in London to discuss cytology in relation to botanical and zoological taxonomy. W. B. Turrill defined the aim of the taxonomists and reviewed the problems raised by sterility, apomixes and polypody. F. C. Stern showed how the number and shape of chromosomes helped to distinguish critical species which otherwise were difficult to distinguish. He suggested that the genera *Leucojum*, predominantly western Mediterranean, and *Galanthus*, predominantly eastern Mediterranean, had diverged from a common ancestral type which had been driven south in glacial times.

Professor Lily Newton delivered the presidential address to the Botany section at the British Association meeting at Newcastle-on-Tyne on "The utilization of the macroscopic marine algæ through the ages." Seaweeds served as food in the east and as fodder and manure in the west from very early times and Professor Newton described in detail the many uses to which they had been put in various parts of the world and the latest work, particularly in Great Britain, to exploit commercially the marine algæ around the shores of Britain.

J. Allison and H. Godwin identified tubers of *Arrhenatherum tuberosum* and grains of a six-rowed barley in a sample of carbonized plant material from an Old Bronze Age site in Wiltshire. From a Middle Bronze Age site in the same county they recorded a sub-fossil seed of *Veronica hederaifolia*.

P. W. Brian found that Griseofulvin, a metabolic product of several species of Penicillium, in concentrations of 0·1—10·0 μg./ml., had a profound influence in the morphogenesis of many fungi. No effect was observed in the treatment of the comycetes, actinomycetes and bacteria but the product was found to be appreciably toxic to some angiospermic seeds.

E. J. H. Corner suggested in his Durian theory that it was possible, from a study of tropical fruits, to trace the gradual evolution of the modern tree form. He argued that the primitive angiosperm fruit must have been a red fleshly follicle with large, black red-arillate seeds suspended on persistent funicles. The primitive angiosperm was a tropical cycad like mesophyte with large pinnate leaves and bearing a cluster of large arillate follicles.

S. Dickinson, investigating the stimuli determining the direction of the growth of the germ tubes of rust and mildew spores, concluded that three tropisms were involved, positive hyderotropism and two types of growth response due to contact. He also studied the behaviour of germ tubes of certain nests and found that the formation of appressoria, of substomatal vesicles and of infection hyphae were induced by contact stimuli. He described how the mycelia of two rusts on removal of their host epidermis were unable to grow out of the infected host disease.

D. Doxey studied the effect of isopropyl phenyl carbonate on mytosis in rye and onion and described the resulting mitotic irregularities. These included interference with centromere action and spindle suppression resulting in paired chromosomes and polypoid nuclei. The effects were compared with conditions found in certain types of tumour.

On the controversial subject of per-glacial survival of certain components of the British flora H. Godwin showed that new evidence regarding the former wide range of species, which were now much restricted, presented the problem as one of explaining post-glacial movements and adjustments rather than of per-glacial survival.

J. W. Heslop Harrison recorded *Potamogeton epihydrus* from the Outer Hebrides. This was a most interesting addition to the British flora as it is one of the few species which are predominantly north American in their distribution and which reach extreme western Europe.

C. C. Harvey and K. M. Drew reported the first occurrence on the English coast of the red algal genus *Falkenbergia* as an epiphyte on a piece of Floridian alga.

Knud Jessen published his studies in late Quaternary deposits and flora history of Ireland. From detailed examination of the plant remains in post-glacial deposits in a number of widespread bogs and peat deposits, he had traced the changes in the flora to recent times, and listed the species found in the various zones. He considered that certain constituent elements in the present day Irish flora, including the Atlantic and Lusitanian species, might have survived the last glaciation.

J. A. Macdonald investigated the heather rhizomorph fungus *Marasmius androsaceus* which grows where the heather is wet and attacks old plants more commonly than young ones. It was found that a burned area of moor was unaffected while the neighbouring unburned area was severely infected.

P. S. Nutman studied nodule formation in red clover, and suggested that bacteria penetrated the root and produced nodules only within those zones of the root distinguished by the presence of growing root hairs and only at points of incipient meristomatic activity.

T. R. Peace and J. S. L. Gilmour studied the effect of picking on the flowering of the bluebell *Scilla non-scripta* and found from independent observations in two separate localities that neither picking nor pulling had any deleterious effect on flower production over a period of years.

M. E. D. Poore and V. C. Robertson gave an account of certain aspects of the vegetation of St. Kilda to show the changes subsequent to the evacuation of human inhabitants in 1932.

J. E. Raven, after visiting the Isle of Rhum, indicated that several of the rare and interesting plants reported from the island in recent years had been introduced.

K. R. Sporne, in a statistical analysis of floral and vegetative characters of the families of Dicotyledons, suggested that there were significant correlations in an assessment of relative advancement. On this basis Dipsaceæ, Labiatæ and Valerianaceæ were shown to be amongst the most advanced families, and Flacourtiaceæ, Anonaceæ, Magnoliaceæ and Euphorbiaceæ to be amongst the most primitive.

J. Walton described the ovuliferous fructification of *Calathospermum scoticum* and indicated its significance in the interpretation of carpel morphology. He also described *Alcicornopteris Hallei* from the Lower Carboniferous of Dumbartonshire and referred the species to the Pteridospermæ. It was the first example known of a fairly complete microsporangiale fructification to be found in a petrified state.

C. W. Wardlaw described experimental and anatomical investigations on leaf formation of phyllotaxis of *Dryopteris aristata* Druce and, on the data available, rejected the hypothesis of other workers.

S. Williams recorded the occurrence of a completely saprophytic liverwort, probably *Cryptothallus mirabilis*, from Dumbartonshire, Scotland. It was found embedded up to three inches in black amorphous peat on the site of a felled wood. (*See* also HORTICULTURE.)

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BOWLS. In 1949, 2,026 clubs were affiliated to the English Bowling association. The national championships held at Paddington, London, from Aug. 15-23, attracted 47,108 entries. A. Allen (Oxford city and county) won the singles by 21-8, A. Collins (West Ealing) being the runner-up. Darlington won the pairs, Worthing pavilion the triples, and Skefko, Luton, the rinks. The International tournament, played at Preston park, Brighton, on July 6-8 for the *News of the World* trophy was won by England on points average, England, Scotland and Ireland each winning two games and losing one. The London and Southern Counties Bowling association's gold badge was won by N. Miller (Lyons), and the Lonsdale tournament by A. C. Thwaites (Century). The national Welsh B.A. singles was won by Evan Rees of Neath, the pairs by Briton Ferry Steel, and the rinks by Victoria park, Cardiff. The Irish B.A. singles was won by R. Miller (Bangor B.C.).

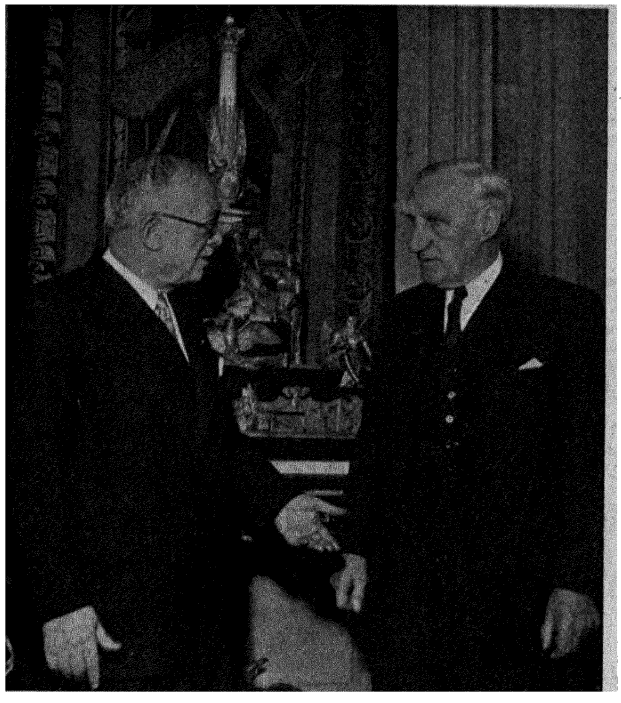
In 1949, 351 clubs were affiliated to the English Women's Bowling association. Mrs. Chillman won the national championship singles, also the two-woods, Mrs. Winslow and Mrs. Homes, of Wiltshire, the pairs, Dorset the triples and Warwickshire, the rinks. (J. W. FR.)

BOXING. A remarkable feature of boxing at the end of 1949 was that Bruce Woodcock, the British heavyweight champion, despite a much chequered career and suspect nervous reflexes, was regarded by the authoritative New York State Athletic commission as one of three contenders for the world championship. The New York body declared the title vacant after the retirement of Joe Louis and refused to alter their attitude although the American National Boxing association, to which all other states are affiliated, accepted the Negro, Ezzard Charles, as Louis's successor by virtue of his victory over Louis's old opponent, Joe Walcott, in a fight Louis himself promoted. The N.Y.S.A.C. would only recognize Charles as champion if he beat the winner of the contest Woodcock *v.* Lee Savold, arranged for May 1950. It was postponed from Sept. 1949 after Woodcock had been involved in a road accident. This accident produced a post-concussional condition and, adding to the damage inflicted on him in a fight with Joe Baksi in 1947 after which he suffered from optic nerve and visional trouble, gave him considerable anxiety. Woodcock only came back to the ring late in 1948. After knocking out the South African, Johnny Ralph, early in 1949, a conquest that did much to restore his confidence, he successfully defended his British title against Freddie Mills in June 1949.

Mills, who was the world champion cruiserweight, had an inactive year in 1949. His only important fight was against Woodcock, to whom he conceded more than a stone in weight and much in height and reach. He was to defend his world title against Joey Maxim, American challenger, early in 1950. Among young heavyweights were Jack Gardner, Johnny Williams and Don Cockill. Dick Turpin, verging on 30, withstood the challenge for the British middleweight championship but seemed unable to make further headway. Meanwhile his fiery young brother, Randolph, now of age, fought his way towards the highest honours in the middleweight class. The spectacular hard-hitting conquests of Pete Mead, the American, and Cyril Delannoite, the former European champion, put Randolph Turpin in line for a match with Dave Sands, of Australia, which the promoters tried to establish as a final eliminator for the world championship held by Jake la Motta, who won it from Marcel Cerdan (*see* OBITUARIES). The British welterweight championship changed hands when Eddie Thomas defeated Henry Hall in an uneven fight. Billy Thompson who fought rather unevenly, remained the British lightweight champion but lost the European title and failed to regain the Empire title in 1949. His next British challenger might have been Tommy McGovern. It was a pity that the best of the Amateur



Players taking part in the national championships of the English Bowling association which were held at Paddington, London, in Aug. 1949.



Lord Boyd-Orr (right) with President Vincent Auriol in the Elysée, Paris, during a short visit to France in Dec. 1949.

Boxing champions, Algar Smith, who turned professional, could not be exempted from the age clause which forbids minors to fight more than a stipulated number of rounds. Smith was fully developed mentally and physically, a natural fighter and a tremendous puncher. He might have been ready to fight for the championship within a year. He was just 18 and the enforced three year wait might damp his ardour. Ronnie Clayton regained his best form towards the end of 1949 but was still below world standard. He fought the fight of his life in attempting to regain the European title from the Frenchman, Ray Famechon; it was a great fight but Famechon was too good for him. Britain's best prospect was, perhaps, Danny O'Sullivan, bantamweight champion-elect. Rowan, the holder, was well beaten by Vic Toweel in South Africa in an Empire title match. Rinty Monaghan retained the world flyweight championship in his native Belfast by virtue of a draw with Terry Allen. This world title, which in the past has well-nigh been the prerogative of British boxers, was challenged by Honoré Pratesi (France), whom Monaghan was to meet. (L. WD.)

United States. On March 1, 1949, Joe Louis, undefeated world heavyweight champion, in a formal announcement to the National Boxing association, gave up the title after the longest and busiest reign any champion the ring had ever known, irrespective of weight. For more than 12 years Louis was the boxing ring's ruler. He defended the title 25 times.

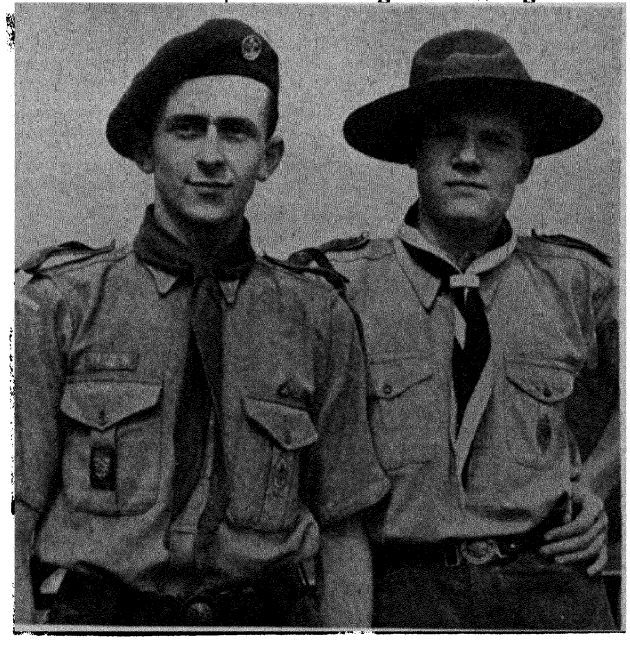
Ray Robinson, world welterweight champion, retained his title in a single defence against Kid Gavilan, a Cuban, in Philadelphia, Pennsylvania. Ike Williams defended his lightweight championship against Enrique Bolanos, Mexico city, Mexico, in Los Angeles, California, and Freddie Dawson, Chicago Negro, in Philadelphia. Willie Pep regained his world featherweight title in a February encounter with Sandy Saddler, Harlem Negro, and defended the championship against Eddie Compo at Waterbury, Connecticut. Manuel Ortiz, El Centro, California, retained his world bantamweight title against Dado Marino, Hawaiian, in Honolulu, Hawaii. (J. P. D.)

BOYD-ORR, JOHN BOYD ORR, 1st Baron, of Brechin Mearn, Angus, British scientist and authority on nutrition (b. Kilmaurs, Ayrshire, Sept. 23, 1880), became director of animal nutrition research at Aberdeen university in 1914 and in 1929 founded and directed the Imperial Bureau of Animal Nutrition. He was made rector of Glasgow university in 1945 and chancellor in 1946. On Oct. 27, 1945, he was unanimously elected director general of the Food and Agriculture organization of the United Nations for a two-year term ending Dec. 31, 1947. In 1949 he visited India at the invitation of the Indian government to advise on food problems. His proposals which were accepted and implemented by the Indian government, were that the production and distribution of food should be organized on a war basis. In Oct. 1949 the Nobel committee of the Norwegian parliament announced that he was to receive the Nobel peace prize for 1949. Following the usual practice the reasons for the award of the peace prize were not made public; but it was believed that it was given both for his work as director general of the Food and Agriculture organization and also as president of the world movement for a world federal government. A barony was conferred on him on Jan. 1, 1949. (See *Britannica Book of the Year 1949.*)

BOY SCOUTS. Scouting in Great Britain and the Commonwealth continued to make steady progress during 1949. In Britain membership reached 473,216, the highest in the movement's history. An encouraging sign was an increase of 4,705 on the previous year in the number of adult leaders.

A "Bob-a-Job" week held in April, when every member of the movement was asked to earn at least one shilling towards administration costs by doing odd jobs, was an enormous success both from the financial viewpoint and from the amount of goodwill that accrued to scouting.

In its role of encouraging international friendship scouting was very active. At the beginning of the year a highly successful Pan-Pacific Jamboree was held in Australia. In August nearly three thousand Rover scouts (Aug. 17-25) from 30 countries camped together at Skjak in the mountains of Norway at the Fourth World Rover moot. A record number of British scouts camped abroad as guests of foreign scouts



The new beret (left) which was introduced during 1949 as an alternative to the old hat for British Boy Scouts on informal occasions.

and many scout visitors from other countries camped in Great Britain.

The council of the Boy Scouts association gave their sanction to a few minor changes in the scout uniform. Scouts over 15 and scout leaders could now wear berets on informal occasions such as camps and hikes, but the familiar wide-brimmed hat introduced by Lord Baden-Powell continued to be worn on all formal occasions. (RLN.)

United States. Boy Scout anniversary week was an outstanding event in 1949. Twelve scouts visited President Harry S. Truman and presented a " Report to the Nation " on scouting civic-service projects carried on during 1948. These scouts later presented a report to the United Nations at Lake Success, New York, on service to scouts abroad.

In May it was announced that age levels in the three age groups of scouting were to be lowered by one year. Cub scouting would be for boys 8 to 10 years of age; boy scouting for boys 11 to 13; and exploring, which would combine all the features of the previous older scout programme, involving air, sea and land activities, would be for those of 14 years and older.

Membership on Oct. 31, 1949, was 2,322,094 persons organized in 69,185 scouting units. There were 1,709,950 boys and 612,144 leaders.

BRADLEY, OMAR NELSON, U.S. general (b. Clark, Missouri, 1893), graduated from the U.S. Military academy at West Point in 1915 and became a major of infantry in World War I. He graduated from the Infantry school (1925), the Command and General Staff school (1929) and the Army War college (1934), taught at West Point until 1938 and then served in Washington on the general staff. During World War II he commanded the 2nd corps in north Africa and Sicily and subsequently all U.S. ground troops for the invasion of northwestern Europe. As commander of the 12th U.S. army group, he commanded more than 1,300,000 combat troops—the largest number of U.S. soldiers ever to serve under a single field commander. In 1945 he was promoted full general. From Aug. 1945 to Dec. 1947 he was administrator of veterans' affairs and on Feb. 7, 1948 he succeeded General of the Army Dwight D. Eisenhower as army chief of staff. On Aug. 16, 1949, he became first permanent chairman of the U.S. joint chiefs of staff. At the end of July and early August, Admiral Louis Denfield, Air Force General Hoyt S. Vandenberg and General Bradley visited Frankfurt, London and Paris to " discuss matters of mutual interest, including the proposed military organization under the North Atlantic treaty," to " acquaint themselves with current conditions in Europe," and to " gain first-hand information of the state of the U.S. forces in Europe." At the first session of the Defence committee set up under the North Atlantic treaty in October Bradley was made chairman of the Military committee which would " commence planning under a broad concept for the integrated defence of the North Atlantic area."

BRAZIL. The largest of the Latin American republics, the United States of Brazil has a common frontier with all South American countries except Ecuador and Chile. Area: 3,286,170 sq. mi. (48·3% of the whole of South America). Population: (1940 census) 41,570,341; (mid-1949 est.) 49,350,000 (*see* Table); about 13% was classified as urban and the remainder as rural; three-fourths of the population is concentrated in an area along the Atlantic coast, where the principal towns are located. The nationality of the population as shown by the 1940 census was: Brazilian born 39,822,487, naturalized 122,735, foreign 1,283,833, nationality unknown 7,260. Among the foreign-born residents there were *c.* 354,300 Portuguese, 285,000 Italians, 147,900 Spaniards, 141,600 Japanese, 71,000 Germans, 41,000 Poles and 245,000 citizens of other countries. Among the Brazilian-born population, about half was of European stock; the remainder included 8,744,400 mulattoes (21%), 6,035,700 Negroes (14·6%), 5,500,000 Indians and *mestizos* (13%), and 250,000 Asiatics. Language: Portuguese. Religion: predominantly Roman Catholic (94·4%), with over one million Protestants of various denominations and 110,800 Jews. Capital, coterminous with the federal district: Rio de Janeiro (*q.v.*) (1949 est.) 2,091,160. Other chief towns (pop., 1940 census): São Paulo (1,253,943); Recife (327,753); Salvador or Baia (293,278); Pôrto Alegre (262,694); Belo Horizonte (179,770); Belém (166,662); Santos (159,648). President of the republic, General Eurico Gaspar Dutra (*q.v.*).

AREA AND POPULATION AND TERRITORIES OF BRAZIL, 1949
(Latest estimates available as published by the Instituto Brasileiro de Geografia e Estatistica)

State or territory	Area (sq. mi.)	Population (Jan. 1, 1949)	Capital
North			
Acre (terr.)	57,153	99,554	Rio Branco
Amazonas	595,474	502,151	Manaus
Rio Branco (terr.)	97,438	14,273	Boa Vista
Pará	470,752	1,094,200	Belém
Amapá (terr.)	55,489	25,553	Macapá
Guaporé (terr.)	96,986	25,159	Pôrto Velho
Northeast			
Maranhão	133,674	1,464,132	São Luís
Piauí	94,819	969,160	Teresina
Ceará	57,371	2,478,647	Fortaleza
Rio Grande do Norte	20,236	910,386	Natal
Paraíba	41,591	1,685,930	João Pessoa
Pernambuco	38,315	3,185,284	Recife
Alagoas	11,031	1,127,642	Maceió
Fernando de Noronha (terr.)	7	1,275	—
East			
Sergipe	8,321	642,857	Aracajú
Bahia	204,393	4,644,412	Salvador
Minas Gerais	228,469	7,985,145	Belo Horizonte
(Serra dos Aimorés)*	—	79,413	-
Espírito Santo	17,688	889,154	Vitória
Rio de Janeiro (state)	16,372	2,190,394	Niterói
Distrito Federal	451	2,091,160	Rio de Janeiro
South			
São Paulo	95,459	8,522,209	São Paulo
Parana	82,741	1,465,444	Curitiba
Santa Catarina	31,118	1,396,769	Florianópolis
Rio Grande do Sul	110,150	3,936,245	Pôrto Alegre
Central-West			
Goiás	225,266	979,606	Goiânia
Mato Grosso	485,405	496,846	Cuiabá

*Area in dispute between the states of Minas Gerais and Espirito Santo

History. Since early 1948, when an inter-party agreement for co-operation with the legislative programme of President Dutra's administration was signed by leaders of the National Democratic union (U.D.N.), the Social Democratic party (P.S.D.) and the Republican party (P.R.), the country's political life had been conditioned by the bickering between party leaders over the selection of candidates for presidential elections. The Superior Electoral tribunal announced that these were to be held on Oct. 1, 1950. Dutra declared publicly that he would not seek re-election. Aware of the fact that none of the existing parties was strong enough to expect to win alone at the polls, the president endeavoured to bring about a united front of the three principal parties (U.D.N., P.S.D. and P.R.) backing a common presidential candidate. Leaders of the three parties found it impossible to agree on the same candidate. Numerous conferences, interviews, round-table and private talks took place in Rio de Janeiro and the various state capitals but to no avail.

At the end of the year it was suggested that the leaders of the P.S.D. (Dutra's own party) should agree on a list of four candidates from the state of Minas Gerais whom the party would be willing to support. The U.D.N. would pick one of the four suggested candidates and the two parties would then agree to support the selected candidate at the polls.

This formula was rejected by U.D.N. leaders as well as by Vice-President Nereu Ramos, who was chairman of the P.S.D. and himself an avowed candidate to the presidency. Meanwhile, Ademar de Barros, the governor of the state of São Paulo, announced that he was not quite decided whether to be a candidate or not although his party, the Social Progressive, had set up a well organized campaign committee with allegedly ample funds to draw upon. It was persistently rumoured that the governor of São Paulo, if he chose to run, would have the backing of former dictator Getulio Vargas and the Brazilian Labour party (P.T.B.). At various places, including the federal capital, groups of students paraded the streets loudly proclaiming Brigadier Eduardo Gomes as the only possible candidate of the people. Whether Brigadier Gomes, the U.D.N.'s defeated candidate in 1945, again would consent to become a presidential candidate was not certain. As the year drew to a close, the political situation in the country, could be classified only as confused.

Internationally, Brazil continued to pursue its traditional policy of friendship towards the United States, support for the United Nations and co-operation in the Pan-American movement through the Organization of the American States. In May 1949 President Dutra journeyed to the United States in response to an invitation of President Harry S. Truman. His 10-day stay was marked by numerous expressions of friendship between the two peoples. While in Washington President Dutra addressed a joint session of the U.S. congress.

On March 10 it was announced that the Joint Brazil-United States Technical commission had completed its task and had submitted its report to the governments of Brazil and the United States. The report pointed out that the need for a broad development programme in Brazil was indicated by the low productivity and small income of the majority of its people and a serious lack of balance in its economic structure. The commission unanimously agreed that the economic development of the country should be accelerated by a carefully considered programme of government expenditures, by policies favouring a balanced development of the country's resources by private enterprise and by policies directed specifically toward controlling inflation and meeting the balance of payments problem. (R. d'E.)

Education. Schools (1947): primary 58,502, teachers 112,412, pupils 4,336,437; most of these schools were to be found in the states of São Paulo (10,013), Minas Gerais (8,489) and Rio Grande do Sul (8,127); secondary, approximately 1,500, pupils 300,000; vocational 2,700, pupils 200,000; state universities 7; private (Catholic) universities 3. Illiteracy (1947): approximately 57%.

Agriculture. Main crops ('000 metric tons, 1948): coffee 945; cotton 308; rice 2,150; maize 5,511; sugar 1,840; cocoa 96; tobacco 117. Livestock ('000 head): cattle (Dec. 1947) 45,000; sheep (Dec. 1947) 18,000; horses (Dec. 1946) 6,770; pigs (Dec. 1947) 5,000.

Industry. Persons employed (1941) 944,318. Fuel and power: coal ('000 metric tons, 1948) 2,015; consumption of gas in Rio de Janeiro and São Paulo ('000 cu. ft., 1948) 6,180,029; consumption of electrical energy in Rio de Janeiro and São Paulo (million kwh., 1948) 2,453; crude oil output (metric tons, 1948) 18,750. Raw materials (metric tons): rubber, export (1948) 5,150; manganese ore (1947) 451,430; chrome ore, export (1946) 174; pig-iron (1948) 521,700; steel ingots and castings (1948) 462,000; gold (fine troy oz., 1948) 130,000; diamonds (carats, 1947) 275,000. Manufactured goods: cotton textiles (1947) 1,005 million sq. m.; cement (1948) 1,113,000 metric tons.

Foreign Trade. (Million cruzeiros) Imports: (1948) 20,985, (1949, six months) 10,430; exports: (1948) 21,697, (1949, six months) 8,210. Main imports: transport and equipment, iron and steel manufactures and machinery. Main exports: coffee, cotton manufactures, cocoa, hides, skins and leather. Main sources of supply (1948): United States 52%; United Kingdom 10%; Argentina 7%. Main destinations of exports: United States 43%; Argentina 9%; United Kingdom 9%.

Transport and Communications. Roads (1949) 64,294 mi. Licensed motor vehicles (Dec. 1948): cars 162,776, commercial vehicles 155,585. Railways: (1947) 22,029 mi.; passenger-mi. (1948) 5,791 million;



In May 1949 President Eurico Dutra of Brazil paid an official visit to the United States. This photo shows him (standing in first car) during a parade in Pennsylvania avenue, Washington.

freight net ton-mi. (1948) 4,569 million Shipping (July 1948) merchant vessels of 100 tons and upwards 342, total tonnage 709,012. Air transport (1948) hours flown 244,000, mi flown 37,649,000; passengers flown 946,600, cargo carried 14,090,000 kg, air mail carried 712,000 kg At the end of 1948 there were 8 foreign and 23 domestic airlines serving 157 places. Telephones (1948) subscribers 468,500 Wireless licences (1941) 500,000.

Finance and Banking. (Million cruzeiros) Budget (1949 est.) revenue 18,229, expenditure 19,370, (1950 est.) revenue 20,186, expenditure 20,182 National debt (Dec 1946) paper 37,966, gold 1,124 Currency circulation (July 1949, in brackets, July 1948) 18,400 (17,040) Bank deposits (July 1949, in brackets, July 1948) 33,610 (27,460) Gold reserve (July 1949, in brackets, July 1948). U.S. $317 (354) million. Monetary unit *cruzeiro* (Cr.$) with an official exchange rate of £1=Cr $52 416 (before Sept. 18, 1949 £1=Cr $75·44).

BREAD AND BAKERY PRODUCTS. During 1949 there was no change in the extraction rate of flour in Great Britain and from 100 lb. of wheat the miller had to provide 85 lb. in the form of flour suitable for human use and thus to produce only 15 lb of by-products available for the feeding of animals. This rather dark, long extraction flour could not be expected to produce the bold quality loaf which was made in prewar days; but it was claimed that the loaf, although not so liked by the public, was of good nutritive value—a claim which few would deny. It was indeed to the credit of the British miller that from the restricted wheats at his disposal—the sources of supply being only five (United States, Canada, Argentine, Australia and home grown wheat) as against 40 before 1939—he continued to make, at this high extraction, flour of as good baking quality as he had.

There was no outstanding change affecting bread and confectionery although as regards the latter there was a tendency for supplies of sugar etc. to be rather more plentiful. Nevertheless supplies were still much below the prewar standard. Following the general trend, more and more bread was being produced in the large fully automatic bakeries and indeed this might have reached in 1949 a total approaching 70% of the whole. In such bakeries, the dough was made in electrically driven mixers, divided by machinery, moulded mechanically, given its final proof or fermentation in automatic provers and finally baked, untouched by hand throughout, in a continuous "travelling" oven. In Great Britain bread wrapping was prohibited during the war but from Nov. 1 this was permitted once again.

In the United States great interest was aroused by the use of "softeners" to counteract or delay the effect of staling and enquiries were proceeding to determine their desirability in all respects. In Great Britain and Australia much needed and far too long delayed research institutes dealing with bread manufacture were formed. (*See* also FLOUR.)

(D. W. K-J.)

BREWING AND BEER. The downward trend of beer consumption since 1946 was masked rather than arrested during 1949. Consumption in terms of bulk barrels during the first three months amounted to little more than 70% of that during the corresponding months of 1946. The revenue from the beer duty, it was estimated, must have been on average about £1 million lower each month than it was in 1948. The time evidently was ripe, or over-ripe, for a reduction in the beer duty and in April the chancellor of the exchequer announced the first reduction since 1933—one of 21*s.* a bulk barrel. The price to the public was to be lowered by 1*d.* a pint, which meant that the brewing industry was called upon to bear a loss of 3*s.* a barrel.

Almost immediately consumption went up to near the 1948 level. May 1949 consumption was very little below that in 1948; so was the June consumption. In July, output was 84,000 bulk barrels above that in July 1948. Much the same level was maintained until September. The chancellor's policy in reducing the duty by no more than a "penny off the pint" appeared to be justified. In the trade, however, there was no experienced brewer or licensed victualler who would have ventured an opinion as to how far the improvement had been caused by the reduction in price and how far by the phenomenally fine hot summer. This caution was justified by the October consumption; this was smaller, in relation to 1948 monthly output, than that of any other month since the reduction of the duty. Later experience bore out the impression that a more drastic reduction in the duty (which at 8*d.* a pint was still four times as high as in 1939 on beer of average strength at the respective times) would be necessary if the decline in consumption was to be permanently arrested.

The Licensing act passed during 1949 gave the home secretary power to set up State Management areas in districts scheduled as new towns but, in response to popular feeling shorn of the more far-reaching clauses that would have made it possible to surround the new towns with wide belts of state-managed areas. Criticism of the so-called "tied house" system appeared at first to meet with some support. This criticism dwindled as the Brewers' society in a series of soberly-phrased statements pointed out that "tied" houses were generally let at very low, often nominal, rents and that tenants possessed such advantages as a business of their own,

TABLE I.—MONTHLY CONSUMPTION OF BEER IN GREAT BRITAIN IN STANDARD BARRELS

	1948-49	% of 1945-46
November	1,341,031	77 90
December	1,582,138	95 30
January	1,099,950	62 78
February	1,014,450	73 46
March	1,195,746	80 87
April	1,366,788	85 10
May	1,509,061	80 96
June	1,443,043	81 53
July	1,639,044	87 68
August	1,561,259	79·85
September	1,425,097	82 27
October	1,254,880	68·87

TABLE II.—MONTHLY PRODUCTION OF BEER IN GREAT BRITAIN IN BULK BARRELS

	1948-49	% of 1945-46
November	2,139,908	79 29
December	2,554,532	98 08
January	1,743,438	63 68
February	1,622,948	75 35
March	1,921,373	83 42
April	2,235,524	87 47
May	2,461,316	82 48
June	2,362,481	83 64
July	2,721,173	90·81
August	2,571,887	81 96
September	2,331,666	84 26
October	2,022,178	70 07

possession at 12 months notice, a high measure of security for widows, in return for an undertaking to sell the brewer's draught beers and wines and spirits supplied by him at current market prices. For practical purposes the public, through being offered national as well as local beers and different brews in neighbouring houses, had a wider choice than could otherwise be provided, at a price which represented only a small fraction of 1*d.* a pint profit on beer for the brewer.

At the end of 1948, the small reserve pool of barrelage was thought to be inadequate, with a consequent risk of shortage of beer in certain areas. The Ministry of Food therefore instructed that the figure of 82% of the year 1945-46 should cease to be the permitted standard barrelage of each brewery and that the new figure of 78% should run from Jan. 1, 1949, the balance of 4% to be credited to the reserve pool. This solved the immediate problem but the recovery in consumption during the summer resulted in the pool again running dry at the end of August. The ministry agreed to the pool being overdrawn against the general security of

under-brewed balances by some breweries. In the trade the view was held that as there was no longer a shortage of barley, brewers should be freed from the government restriction limiting them to producing beers of 85% of the average strength of the beers they brewed in 1939. This would have enabled them to brew beer to their customers' tastes, since beer drinkers' tastes varied widely between one town and district and another.

By a " gentleman's agreement " with the National Farmers' union, the brewing industry paid not less than 10s. a quarter above the statutory minimum for all barley used for brewing, both for the 1949 and 1950 crops

The provisional receipts from the beer duty during the financial year 1948-49 were £295 million and from the Liquor Licences duty, £5,049,000. Receipts for the year 1949-50 from these two sources were estimated at £267 million and £4,900,000 respectively (X.)

United States. Beer and ale sales for the fiscal year ending June 30, 1949, totalled 85,809,068 bbl , the second highest fiscal year figure on record. Highest figure was 86,992,795 bbl. in 1948. Bottled and canned beer accounted for 70% of the 1949 fiscal year sales total.

Consumption of malt beverages had increased by about 34 million bbl. since 1939. The entire increase was accounted for by packaged sales, made largely in food stores for home consumption, although a considerable volume of packaged as well as nearly all of the draught beer was sold through taverns.

For the first eight months of 1949, all indications pointed to a record year for beer and ale sales. Withdrawals at that point totalled 58,411,593 bbl , topping by more than 500,000 bbl. the previous record sales of 57,880,644 bbl. August registered the highest single month's sale of beer in the nation's history, with 8,901,000 bbl.

A development of major interest to the industry during 1949 was the introduction of courses in brewing sciences in several universities. These courses were similar to those offered for many years by the University of Birmingham in England.

The U.S. bureau of the census of manufactures' figures for 1947, the latest available, showed that the industry in that year paid out $292 million in wages and salaries, as compared with $122,300,000 in 1939, and expended $620 million for materials, fuel, new plant and equipment, as compared with $182,300,000 in 1939.

Federal excise and special taxes on malt beverages for the fiscal year 1949 totalled $690,797,422. Beer and ale were in 1949 taxed at $8 a barrel. (*See* also HOPS)

BRIDGES. In connection with the hydro-electric schemes of the North of Scotland Hydro-Electric board, three reinforced concrete bridges were completed during 1949. In Perthshire, near Pitlochry, the Aldour bridge was built across the river Tummel to replace the old Clunie bridge which would be submerged by the Loch formed by the Pitlochry dam. Built in a style similar to the Waterloo bridge, London, it was a three span, low arch, reinforced concrete structure with an overall length of 301 ft. 6 in. The centre span was 94 ft. and the two anchor spans 77 ft. 6 in. The bridge had an open railing parapet.

In Dumbartonshire, a bridge was needed to carry the trunk road from Balloch to Crianlarich over the tailrace of the Loch Sloy power station. The bridge had two spans and was built of reinforced concrete. The parapet walls were of rubble masonry. In Ross-shire, the Grudie bridge power station of the Loch Fannich project also involved a new bridge to carry the main road from Garve to Gairloch. This bridge had one low arch in reinforced concrete and solid parapets in Tarradale stone.

Belgium. A contract was placed in 1949 in Belgium for the world's first pre-stressed concrete bridge incorporating continuous spans, designed by Professor Gustave Magnel. Spanning the Meuse river at Sclayn, the bridge was to consist of two 206 ft. hollow girder spans continuous over a central pier. A lower bid, for a concrete bow-string arch, was rejected because it required three piers in the river.

Work was progressing on the reconstruction of the railway bridge at Val-Benoit. Designed to carry a double-truck railway line, it had two approach spans of 82 ft. and a central structure of three continuous spans, each 178 ft. long. Construction also continued during the year on a road bridge of steel across the river Sambre at Marchienne-au-Pont.

Brazil. The Galeão bridge in the harbour of Rio de Janeiro, a 15 span pre-stressed concrete girder bridge 1,215 ft. long, was opened to traffic in 1949 with only three of the final six highway lanes completed.

Canada. In Vancouver, British Columbia, an $8 million, eight-lane bridge, 90 ft. wide, with 90 ft. clearance over the water, was planned in 1949 to replace the Granville street bridge. The latter, a low-level structure with swing span, caused traffic congestion when the bridge was opened in rush hours.

Construction of a $13,500,000 low-level bridge, 3,000 ft. long, over the Strait of Canso, which separates Cape Breton Island from the mainland of Nova Scotia, was authorized in 1949 by the Canadian government. Difficult foundation problems were presented by strong tidal currents and the 200 ft. depth of water.

France. A new steel road bridge over the river Marne was completed at the end of Dec. 1948. The bridge was of the bow-string type, with a span of 259 ft. and a clear width of 246 ft. The super-structure carried a roadway of 20 ft.

Germany. The reinforced concrete arch bridge carrying the important Mittelland canal across the Weser valley near the town of Minden, destroyed by the retreating German army in 1945, was rebuilt in 1947-49 at a cost of $2 million.

The reconstructed *Autobahn* bridge across the Lahn valley at Limburg, on the Frankfurt-Ruhr route, had spans of 207, 311 and 207 ft. German military K-type trusses were used as the bridge was cantilevered across the river.

Greece. The Brallo bridge, steel deck-truss type, on the Athens-Salonika line of the Greek State railroad, was completed in 1949 as one of the reconstruction projects carried out by the American Mission for Aid to Greece.

Hungary. All of the bridges over the Danube at Budapest (five highway and two railway) were wrecked during World War II; six were blown up by the German troops and one (the uncompleted Arpád bridge) was damaged by artillery. Until 1946, when the Franz Joseph suspension bridge was reconstructed, the city was served only by a pontoon bridge, which replaced the famous Elizabeth suspension bridge, and by a temporary trestle bridge, which replaced the Margaret bridge. Plans were made to rebuild the famous Clark chain suspension bridge in 1949 and the Miklós Horthy bridge (now re-named the Boraros bridge) in 1950. In the meantime, as steel became available, the continuous steel girder Arpád bridge, with a longest span of 340 ft., was completed in 1949. The deck area of this bridge was 90 ft. wide and 3,000 ft. long.

India. Construction was begun in 1949 on a new bridge across the Mahanadi river, near Sambalpur. The bridge, estimated to cost $3 million, would form an important link on the national highway between Bombay and Calcutta.

The foundation stone was laid of a new road bridge across the Godavari, near Rajahmundry. The bridge, which was estimated to cost Rs.20 million would have a roadway 24 ft. wide. It would form an important link in the system of national highways from Madras to Calcutta.

Japan. A 1,600 ft. reinforced concrete bridge over the Tama river, on the modern highway from Tokyo to Yokohama, was completed in 1949. It was under construction for two years at a cost of 130,000,000 yen ($400,000 U.S.).

Northern Rhodesia. On Sept. 8, the Kafue bridge was opened by the governor, Sir Gilbert Rennie. The bridge was 420 ft. long and spanned the river Kafue (a tributary of the Zambesi) about 30 mi. south of Lusaka. The Beit trustees had prepared plans for a bridge in 1939 but World War II prevented its construction. After World War II the Beit trustees purchased from the London County council one of the temporary bridges which had been erected over the Thames at London. This was dismantled and taken to Rhodesia and handed over to the Northern Rhodesian government. The new bridge was the first permanent road bridge crossing the lower reaches of the Kafue.

Nyasaland. A new bridge at Chiromo, to replace the one destroyed by heavy floods in March 1948, neared completion at the end of the year. The Cleveland Bridge and Engineering company, of Darlington, started work on the bridge in 1948 and it was planned for trains to pass over the bridge by Jan. 1950 and for the bridge to be completed by June 1950.

United States. Progress was recorded in 1949 in securing official authorization for the proposed Liberty bridge to span the Narrows at the entrance to New York harbour between Brooklyn and Staten Island with the unprecedented span length of 4,620 ft. and an underclearance height of 237 ft., at an estimated cost of $78 million. Public hearing on the application of the Triborough Bridge authority of New York city was held on Jan. 12 before a board of top-ranking officers of the U.S. army, navy and air force; and official war department approval of the plans was signed by the U.S. secretary of defence on May 24.

Official approval by the governor and the state superintendent of public works in 1949 paved the way for the construction of a new suspension bridge of 1,700 ft. main span to be built by the New York State Bridge authority across the Hudson river between Kingston and Rhinecliff, estimated to cost $14 million.

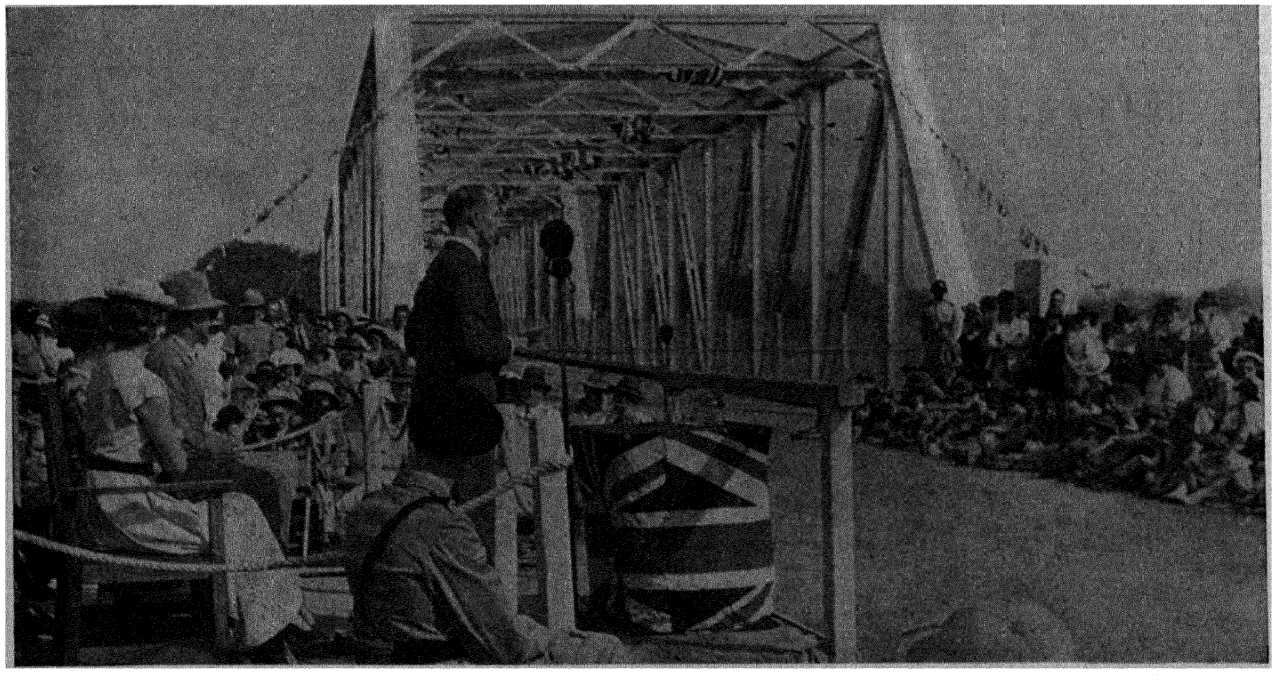
Construction progressed through 1949 on the new $13 million Tacoma Narrows bridge, a four-lane suspension bridge replacing the two-lane structure completed on July 1, 1940, which was destroyed by aerodynamic oscillations on Nov. 7, 1940. The bridge utilized the original piers, with a main span of 2,800 ft., the third longest in the world. Misfortune continued to attend this undertaking. On April 13, 1949, an earthquake hurled a 23 ton saddle casting from the top of one of the completed towers to the bottom of Puget sound, sinking a work barge *en route;* and on June 8 a fire at the base of the west tower buckled one of the steel plates and damage was estimated at $300,000.

Work was continued during 1949 on the substructure for the Delaware Memorial bridge (suspension type) over the Delaware river near Wilmington, Delaware, to connect Delaware's du Pont highway with New Jersey's planned new turnpike. With a main span of 2,150 ft., the estimated cost was $40 million. The project was 3½ mi. long.

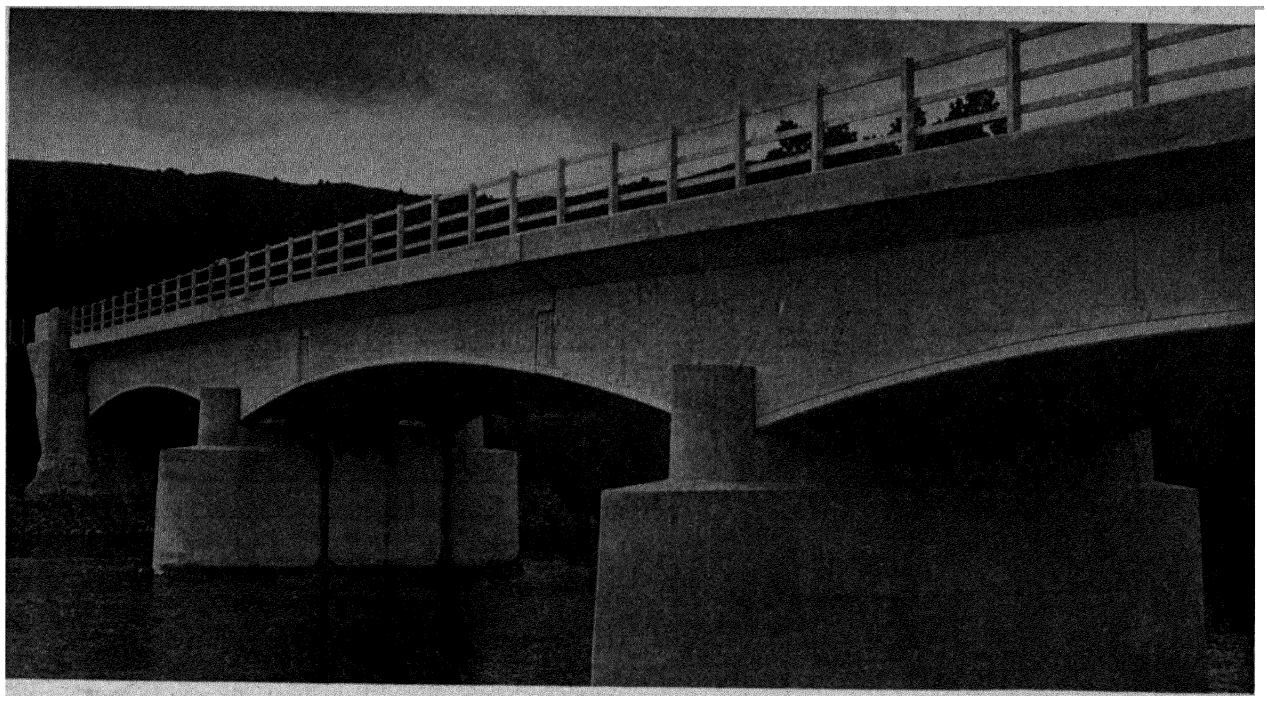
The California Toll bridge authority approved in 1949 plans for a new bridge over San Francisco bay to parallel the existing Transbay bridge about 300 ft. north of that structure.

Contracts were let by the Maryland State Road commission in 1949 for the construction of the Chesapeake Bay bridge. The 1948 estimate of $36,370,000 for the structure was increased to $47 million. The crossing included a suspension bridge of 1,600 ft. main span and a cantilever bridge of 780 ft. main span.

A significant event in 1949 was the casting and testing of the first precast concrete girder in the United States. This 160 ft. girder was for Philadelphia's new $700,000 Walnut Lane bridge, the first application in America of this new type of bridge construction. The available 400 tons of steel ingots, added to the 150 ton dead weight of the girder, proved insufficient to produce failure. The reinforcing wires, prestressed to 125,000 lb. per sq. in. had an ultimate strength of 242,000 lb. per sq. in. and a yield strength of 213,000 lb. per sq. in. (compared with 160,000 lb. per sq. in. specified), and the concrete had a 28-day strength of 7,200 lb. per sq. in. (compared with 5,400 lb. per sq. in. specified). The bridge,



Sir Gilbert Rennie, governor of Northern Rhodesia, opening the Kafue bridge, Sept. 8, 1949. During World War II it was used as an emergency bridge crossing the river Thames at London and was subsequently purchased on behalf of the Beit Trustees by Sir Alfred Beit (seated behind Sir Gilbert Rennie) and handed over to the Northern Rhodesian government).



The Aldour bridge across the Tummel, near Pitlochry, Perthshire. Built for the North of Scotland Hydro-Electric board in a style similar to Waterloo bridge, London, it was handed over to the Perthshire county council in Oct. 1949.

scheduled for completion early in 1950 would have 13 prestressed concrete girders 160 ft. long in the main span and 7 girders 74 ft. long in each side span.

The Lake Washington Floating bridge at Seattle, Washington, completed in 1940 at a cost of $9,860,000, was made toll-free after nine years of collections. The removal of tolls increased traffic to a point where construction of a second bridge across the lake was being considered.

A new $4 million high-level bridge over the Chesapeake and Delaware canal at Chesapeake City, Maryland, was completed in 1949 to replace a lift bridge which was destroyed in 1942 when a tanker crashed into the south pier. The new bridge was a steel tied-arch of 540 ft. span, identical in span and design with the bridge at St. Georges, Delaware, built in 1942 over the same canal following a similar accident in 1939.

Construction also progressed on the high-level Penrose Avenue bridge, crossing the Schuylkill river between Philadelphia and Chester, Pennsylvania. The project was 12,378 ft. long, including approach viaduct spans on high concrete piers and a cantilever bridge of 680 ft. main span.

The famous Pecos viaduct of the Southern Pacific railroad near Comstock, Texas, for many years the highest railroad bridge in the United States, was dismantled in 1949 after replacement by a new cantilever bridge in 1944.

The high-level bridge, connecting Akron and Cuyahoga Falls, Ohio, arching 185 ft. above the Cuyahoga river, completed in 1949, was a decktype cantilever bridge, 900 ft. long, with a centre span of 480 ft.

At East Fredericktown, Pennsylvania, a suspension bridge of 1,000 ft. span was built over the Monongahela river in 1949 to carry a belt conveyor for bringing coal across the river from mine to processing plant.

In South Carolina, a three-span steel highway bridge (put out of service when the Santee dam was completed in 1941) was moved 20 mi. downstream in 1949, from Lake Marion on the Santee river to a new crossing over the Santee-Cooper diversion channel. The three truss spans (150, 168, 150 ft.) were lifted from their original piers, towed downstream on a wooden barge and placed on newly constructed piers at the new site.

During the cantilever erection of the new Bluestone river highway bridge near Hinton, West Virginia, a sudden collapse of 231 ft. of the 278 ft. centre span on March 31, 1949, plunged five men to their death in the stream 150 ft. below and four others were injured. The cause of the collapse was not discovered. (*See* also ROADS.) (D. B. S.; X.)

BRITISH BORNEO. British territories in Borneo consist of the colonies of North Borneo including the island of Labuan (area, 29,540 sq. mi.; pop. [1947 est.] 335,379); Sarawak (area, *c.* 50,000 sq. mi.; pop. [1947 census], 546,361) and the protected state of Brunei (area, 2,226 sq. mi.; pop. [1947 census] 40,670). Governors: North Borneo, Sir Ralph Hone; Sarawak (also high commissioner for Brunei), Duncan G. Stewart (assassinated in December).

Proposals for the establishment of executive and legislative councils in North Borneo were approved and the necessary instruments to give them effect were in process of drafting and were expected to be ready before the end of the year. Under arbitration an award of £1·4 million was fixed as the sum to be paid by the British crown to the British North Borneo company in respect of the transfer to the crown of the company's sovereign rights and assets in North Borneo under the terms of the agreement entered into in June 1946.

The governor, D. G. Stewart, was stabbed on Dec. 3, at Sibu, by a member of the Malay Youth association which opposed the cession of Sarawak to the crown. He died at Singapore on Dec. 10.

Finance and Trade. Currency: Straits dollar ($1 = 2*s.* 4*d.*)

	North Borneo	Sarawak	Brunei
Revenue (1948)	$13,780,929	$14,055,045*	$6,586,299
Expenditure ,,	$10,727,063	$19,186,932*	$3,740,254
Imports ,,	*c.* $25,419,000	$98,769,885	*c.* $35,000,305
Exports ,,	*c.* $29,742,000	$171,250,887	*c.* $49,000,000

* 1949 estimates.

Principal exports: North Borneo, rubber and timber; Sarawak, diesel oil, crude oil, rubber and sago flour; Brunei, crude oil. In assessing

Sarawak's import and export figures note should be taken that all Brunei's crude oil (to the value of $47,140,683 in 1948) is pumped to the refinery at Miri and later re-exported (J. A. Hu.)

BRITISH COUNCIL. At the end of 1949 the British Council had representatives in 40 foreign countries, in Australia, New Zealand, India and Pakistan and in 18 British colonies. During the year it opened offices in Fiji, Israel, Mauritius and Uganda. The council supplied material and services to the United States, Canada, South Africa and other countries in which it was not represented. In the United Kingdom it provided services for people from overseas through 34 offices and centres.

The total of the grants-in-aid voted by parliament for the council for the financial year 1949-50, after allowing for estimated receipts of £224,600, was £3,232,000, made up of £2,551,000 for work in foreign countries and £681,000 for work in the Commonwealth. The total establishment of staff provided for was 3,471, but the total staff actually employed was about 3,000.

On Jan. 1, 1950, the council took over from the Colonial Office responsibility for the welfare of British colonial students in the United Kingdom. The British government provided about £500,000 to finance this work and also an increase in welfare services for overseas students in London, for five years.

In 1949 there were in operation cultural conventions, all entered into by the British government after World War II, with France, Brazil, Belgium, the Netherlands, Norway and Czechoslovakia. The council, usually nominated by the British government as its principal agent in the matters under review, was represented on, and provided the secretariat for, the British sections of the mixed commissions set up. During the year five mixed commissions held meetings and the chairman of the council met the Brazilian commission when he made a tour of inspection of council establishments in Latin America. The council was also represented on the Cultural committee of the Brussels Treaty powers, which, during 1949, dealt with arrangements for promoting the free flow of cultural material and the free movement of persons between the five countries. The council and the British Treasury arranged a study course in connection with the Brussels treaty in Nov. 1949, when nine senior government officers from Belgium, France, Luxembourg and the Netherlands came to London to study the structure and organization of the British executive and the relations between the central government and the local authorities in Great Britain.

The annual report of the council for the year to March 31 1949 recorded that in 73 overseas centres maintained or assisted by the council 44,803 students attended English and other courses, and 26,012 members enrolled for extra-curricular activities. In 22 countries 1,600 teachers of English attended summer schools arranged in co-operation with local educational organizations or universities. The overseas libraries had over 215,000 books and sales of the council's brochures totalled 140,664. The council awarded 242 post-graduate scholarships tenable in the United Kingdom to students from foreign and Commonwealth countries, 119 extensions to scholarships previously awarded and 105 short-term bursaries to technicians and industrial and other workers. Through the council 12 countries offered 62 scholarships to British students The council arranged study programmes for 869 professional visitors to the United Kingdom, and, in co-operation with British universities and other bodies, short courses and summer schools for 1,700 other visitors from 57 countries. (R. F. Am.)

Bibliography. *Annual Report of the British Council* (London, 1949).

BRITISH EAST AFRICA. The term is used to cover Kenya (colony and protectorate; area, 224,960 sq. mi.); Uganda (protectorate; area, 93,981 sq. mi.); Tanganyika (under United Kingdom trusteeship; area, 362,688 sq. mi.); Zanzibar (protectorate; area, 1,020 sq. mi.); and the Somaliland (protectorate; area, *c.* 68,000 sq. mi.; pop. [1947 est.] *c.* 700,000). Populations (Feb. 25, 1948 census):

	European	*Indian*	*Goan*	*Arab*	*Other*	*African*	*Total*
Kenya	29,660	90,528	7,159	24,174	3,325	5,218,385	5,373,231
Uganda	3,448	33,767	1,448	1,475	827	4,953,000*	4,993,965
Tanganyika	10,648	44,248	2,006	11,074	2,184	7,004,000*	7,074,160
Zanzibar	308	15,812	—	43,528	3,390	202,834	265,872

* Provisional figures

In 1948 the East African High commission, consisting of the officers for the time being administering the governments of Kenya, Uganda and Tanganyika, with a central assembly (consisting of official and unofficial members with an unofficial majority) and an executive organization was established to co-ordinate and control the technical services of the three territories. Governors: Kenya, Sir Philip Mitchell; Uganda, Sir John Hathorn Hall; Tanganyika, Sir Edward Twining; Somaliland, Gerald Reece; Zanzibar, British resident, Sir Vincent Glenday.

History. Constitutionally there were no changes in 1949 but it was a year of great development in the sphere of local government. Kampala was raised to municipal status with a municipal council exercising considerable local autonomy, consisting of European, Asian and African members and presided over by a non-official (Asian) chairman. In Dar es Salaam a new municipal council was established with equal numbers of non-official European, African and Indian members. The raising by Nairobi of a £1 5 million loan on the open market on its own assets and responsibility opened a new stage in the development of colonial municipalities. In Uganda the African Local Government ordinance of January gave constitutional support to developments of recent years. In Kenya the text of a bill to provide for local government in Native areas and re-establishment of district councils was submitted to the country for criticism and later was laid before the Legislative Council. In Tanganyika the first provincial council (comprised of officials and unofficial members of the European, Asiatic and African communities) was formed in the Lake province and held its first meeting in June.

Considerable progress was made towards easing the transport bottleneck. Some 350 mi. of railway were under construction in Tanganyika; in Kenya re-alignment between Nairobi and Nakuru reduced the distance and produced an easier gradient. At a conference in London in January on East African transport problems, attended by East African governors and by representatives of both the British government departments concerned and of the East African railways, congestion at Dar es Salaam was the main subject of discussion; immediate steps decided on were the extension of the present quay by 500 ft., a large increase in the lighter fleet, an addition of three cranes and a steady increase in railway rolling stock. A technical committee of the East African railways reported later in the year that it estimated Dar es Salaam could be developed into a major port with 18 deep-water berths and that with certain limited improvements, either in hand or suggested, it should by 1951-52 be able to handle nearly twice the total tonnage of 1948. It was announced that to carry out these and other improvements the East African Railways and Harbours administration were preparing to borrow £23 million in instalments.

In May agreement with the Egyptian government was announced with regard to the building of a dam and hydro-electric power station at Owen falls, Uganda. The Egyptian government offered to pay £4·5 million towards the cost of the scheme (estimated to cost a total of £12 million). The contract for the construction of the dam was placed with an Anglo-Dutch firm and the work was expected to be completed



The Commonwealth prime ministers at Buckingham palace on April 23, 1949. Left to right, D. S. Senanayake (Ceylon), L. B. Pearson representing Louis St. Laurent, Canada), Liaquat Ali Khan (Pakistan), H.M. the King, C. R. Attlee, J. B. Chifley (Australia), D. F. Malan (South Africa), Peter Fraser (New Zealand) and Pandit Nehru (India).

in four years. Meanwhile work forged ahead on certain preliminary installations—the construction of a temporary electrical power plant (diesel-driven), railway sidings and camps for the labour force.

The United Nation's Trusteeship committee mission, which visited Tanganyika in 1948, made a number of criticisms of the administration to which the British government published a vigorous reply.

The much vaunted groundnuts scheme in Tanganyika produced more controversy than oil. A very frank report—*Overseas Food Corporation: Report and Accounts for 1948-49* (H.C.252)—showed that the original plan had been badly over-optimistic both as to costs and possible rate of progress. Not the least disturbing feature of the report was the comment of the auditors. Nevertheless the scheme moved forward and brought with it many indirect benefits to the territory as a whole.

Fairly general rioting broke out in Uganda on April 25 and lasted 2-3 days with sporadic incidents occurring until May 4. The riots followed on an expression by the Kaboka of his inability to agree to certain demands put forward by a delegation representing the so-called Bataka party and the African Farmer's union. Five Africans were reported to have been shot and more than 1,300 people were arrested; numerous cases of arson, looting and theft of vehicles occurred. The governor brought into operation the Emergency Powers Order-in-Council 1939, and called in military assistance from Kenya. On May 4 he announced the appointment of a commissioner to inquire into and report upon the origin, cause, purposes and development of the disturbances and the steps taken to deal with them and to make recommendations.

Principal exports: Kenya—sisal, coffee, radium carbonate, hides and skins, tea; Somaliland—hides and skins; Tanganyika—sisal (£8,930,461 in 1948), cotton, diamonds, coffee; Uganda—raw cotton (£7,457,674 in 1948), coffee, cigarettes, sugar; Zanzibar—cloves (£1,000,404 in 1948), coconut oil.

Finance and Trade. Currency throughout British East Africa is controlled by the East African Currency board in London; the standard coin is the shilling, divided into 100 cents; circulation (Dec. 31, 1948): notes £16,857,840, coinage £8,655,646.

	Revenue	*Expenditure*	*Imports* 1948	*Exports* 1948
Kenya	£8,956,500(*a*)	£8,946,740(*a*)	£27,136,338(*d*)	£19,972,227
Somaliland	£525,495(*b*)	£545,357(*b*)	—	—
Tanganyika	£6,965,058(*c*)	£6,381,964(*c*)	£22,608,564	£16,923,394
Uganda	£6,842,071(*a*)	£6,348,304(*a*)	£9,271,287(*d*)	£17,197,716
Zanzibar	£901,208(*c*)	£937,673(*c*)	£2,699,717	£2,116,858

(*a*) 1949 estimates. (*b*) Actual, for the year ended June 30, 1948. (*c*) 1948 actual. (*d*) "Retained" imports only. (J. A. Hu.)

BRITISH EMPIRE. Under this heading are grouped two articles and a table. The articles deal with changes within the Commonwealth of Nations—previously called British Commonwealth of Nations—and the colonial empire. The table gives essential data on the United Kingdom, the dominions, the colonies, the protectorates and trust territories as at Dec. 31, 1949

Dominions. The early months of 1949 marked the climax of a momentous phase in the political and constitutional evolution of the Commonwealth of Nations. On March 31 Newfoundland, a former self-governing dominion, became, at the wish of its own people, the tenth province of the Canadian confederation; on April 18 Eire formally declared herself to be a republic and seceded from the Commonwealth; and on April 27 the prime ministers of the dominions assembled in London resolved that India upon becoming a republic could remain a full and equal member of the Commonwealth.

The union of Newfoundland with Canada and Eire's departure from the Commonwealth had been decided upon in 1948 but both required legislation by the United Kingdom parliament in the final stages. In respect of Eire, or the republic of Ireland as it was correctly styled after April 18, this legislation was not without a broad significance for Commonwealth relations. The Ireland act, introduced by the prime minister in the House of Commons on May 3 and enacted on June 2, recognized that as from April 18 the republic of Ireland had ceased " to be part of His Majesty's dominions " and as a result it gave statutory authority to assurances, already given by the prime minister, that " in no

continued on page 121.

Country	Area sq. mi. (approx.)	Population[a] (000's omitted)	Capital	Status	Rulers, Governors and Premiers
EUROPE					
Great Britain and Northern Ireland	94,204	50,213	London	kingdom	George VI, King Prime minister of Great Britain, C. R. Attlee. Governor of Northern Ireland, Earl Granville Prime minister of Northern Ireland, Sir Basil Brooke
Channel Islands	75	92[e]	St. Helier St. Peter Port	part of the United Kingdom	Jersey: lieutenant governor, Sir A. E. Grasett Guernsey: lieutenant governor, Sir Philip Neame
Isle of Man	221	51[j]	Douglas	part of the United Kingdom	Lieutenant governor, Sir Geoffrey Bromet
Gibraltar	2	23[e]	Gibraltar	colony	Governor, Lt. Gen. Sir Kenneth Anderson
Malta	122	306[b]	Valletta	self-governing colony	Governor, Sir Gerald Creasy Prime minister, Dr. Paul Boffa
ASIA					
Aden and Perim	80	81[f]	Aden	colony	Governor, Sir Reginald Champion
Aden Protectorate	112,000	650[j]	Aden	protectorate	Governor, Sir Reginald Champion
Bahrein Islands	213	125	Manama	protectorate	Political agent, A. C. Galloway
British Borneo:					
North Borneo (with Labuan)	29,540	335[c]	Sandakan	colony	Governor, Sir Ralph Hone
Brunei	2,226	41[d]	Brunei	protectorate	High commissioner — vacant
Sarawak	50,000	546[d]	Kuching	colony	Governor — vacant
Ceylon	25,332	6,879[e]	Colombo	dominion	Governor general, Lord Soulbury Prime minister, Don Stephan Senanayake
Cyprus	3,572	450[f]	Nicosia	colony	Governor, Sir Andrew Wright
Hong Kong	391	1,857	Victoria	colony	Governor, Sir Alexander Grantham
India	1,243,886	342,114	Delhi	dominion	Governor general, Chakravarti Rajagopalachari Prime minister, Pandit Jawaharlal Nehru Commissioner general for S.E. Asia, Malcolm MacDonald
Malaya:					
Federation of Malaya	50,850	4,867[d]	Kuala Lumpur	protectorate	High commissioner, Sir Henry Gurney
Singapore	217	941[d]	Singapore	colony	Governor, Sir Franklin C Gimson
Pakistan	337,524	73,321	Karachi	dominion	Governor general, Khwaja Nazimuddin Prime minister, Liaquat Ali Khan
AFRICA					
Anglo-Egyptian Sudan	967,500	7,547	Khartoum	condominium	Governor general, Sir Robert Howe
British South African Protectorates:					
Basutoland	11,716	560[f]	Maseru	protectorate	High commissioner, Sir Evelyn Baring
Bechuanaland	275,000	245[f]	Mafeking	protectorate	High commissioner, Sir Evelyn Baring
Swaziland	6,704	187[f]	Mbabane	protectorate	High commissioner, Sir Evelyn Baring
Gambia	4,033	251	Bathurst	colony	Governor, P. Wyn Harris
Gold Coast (including British Togoland: 13,041 sq.mi.)	91,843	4,118[b]	Accra	colony and protectorate (British Togoland: trust territory)	Governor, Sir Charles Arden-Clarke
Kenya	224,960	5,373[b]	Nairobi	colony and protectorate	Governor, Sir Philip Mitchell
Mauritius (and Dependencies)	807	452[e]	Port Louis	colony	Governor, Sir Hilary Blood
Nigeria (including British Cameroons: 31,150 sq.mi.)	372,674	25,000	Lagos	colony and protectorate (British Cameroons: trust territory)	Governor, Sir John Macpherson
Northern Rhodesia	284,745	1,684[e]	Lusaka	protectorate	Governor, Sir Gilbert McCall Rennie
Nyasaland	47,949	2,300[e]	Zamba	protectorate	Governor, Sir Geoffrey Colby
St. Helena, Ascension and Tristan da Cunha	95	5[f]	Jamestown	colony	Governor, Sir George Joy
Seychelles	156	35[d]	Victoria	colony	Governor, Dr. P. S. Selwyn Clarke
Sierra Leone	27,925	1,857[b]	Freetown	colony and protectorate	Governor, Sir George Beresford Stooke
Somaliland Protectorate	68,000	700	Berbera	protectorate	Governor, Gerald Reece
Southern Rhodesia	150,333	2,021	Salisbury	self-governing colony	Governor, Sir Noble Kennedy Prime minister, Sir Godfrey Huggins
South West Africa	317,725	321[h]	Windhoek	trust territory (under S. Africa)	Administrator, Colonel P. I. Hoogenhout
Tanganyika	362,688	7,074[b]	Dar-es-Salaam	trust territory	Governor, Sir Edward Twining
Uganda	93,981	4,994[b]	Entebbe	protectorate	Governor, Sir John Hathorn Hall
Union of South Africa	472,550	11,392[d]	Pretoria (seat of government); Capetown (seat of legislature)	dominion	Governor general, Major G. B. van Zyl Prime minister, Dr. Daniel F. Malan
Zanzibar (and Pemba)	1,020	266[b]	Zanzibar	colony and protectorate	Resident, Sir Vincent Glenday
AMERICA					
Bahamas	4,404	77	Nassau	colony	Governor, Sir George Sandford
Barbados	166	199	Bridgetown	colony	Governor, A. W. L. Savage
Bermuda	21	36	Hamilton	colony	Governor, Lt. Gen. Sir Alexander Hood
British Guiana	89,480	403	Georgetown	colony	Governor, Sir Charles Woolley
British Honduras	8,867	59[f]	Belize	colony	Governor, Ronald H. Garvey
Canada	3,694,863	12,883	Ottawa	dominion	Governor general, Viscount Alexander of Tunis Prime minister, Louis St. Laurent
Falkland Islands	4,618	2	Port Stanley	colony	Governor, Sir Miles Clifford
Jamaica (and Dependencies)	4,670	1,375	Kingston	colony	Governor, Sir John Huggins
Leeward Islands	423	109[f]	St. John	colony	Governor, Earl Baldwin of Bewdley
Trinidad and Tobago	1,980	587	Port of Spain	colony	Governor, Sir Hubert Rance
Windward Islands	829	252[f]	St. George's	colony	Governor, R. D. H. Arundell

Country	Area	Population*	Capital	Status	Rulers, Governors and Premiers
AUSTRALASIA					
COMMONWEALTH OF AUSTRALIA	2,974,581	7,581[d]	Canberra	dominion	Governor general, W. J. McKell Prime minister, Robert Gordon Menzies
FIJI	7,040	269	Suva	colony	Governor, Sir Brian Freeston
NEW GUINEA	93,000	675[f]	Port Moresby	trust territory (under Australia)	Administrator, Colonel J. K Murray
NEW HEBRIDES	4,633	48	Vila	Franco-British condominium	British High commissioner, Sir Brian Freeston French High commissioner, Pierre Cournarie
NAURU	8	1		trust territory (under Australia)	Administrator, Robert Stanley Richards
NEW ZEALAND (and Dependencies)	103,935	1,861	Wellington	dominion	Governor general, Sir Bernard Freyberg Prime minister, Sidney George Holland
NORFOLK ISLAND	13	1		Australian dependency	Administrator, A Wilson
PACIFIC ISLANDS (Solomon, Gilbert and Ellice, Tonga and Pitcairn Islands)	12,085	176		colonies and protectorate	High commissioner, Sir Brian Freeston
PAPUA	90,540	339[f]	Port Moresby	part of Commonwealth of Australia	Administrator, Colonel J K. Murray
WESTERN SAMOA	1,133	72[e]	Apia	trust territory (under N Zealand)	Administrator, G R Powles

[a] 1948 est. if not otherwise stated [b] 1948 census [c] 1947 est [d] 1947 census [e] 1946 est [f] 1946 census [g] 1945 census [h] 1941 est. 1940 est. 1939 est.

continued from page 119.

event will Northern Ireland or any part thereof cease to be part of His Majesty's dominions and of the United Kingdom without the consent of the parliament of Northern Ireland." The act also provided that, although the republic was not part of His Majesty's dominions, it was not to be regarded as a foreign country nor were its citizens to be aliens for the purposes of any law in force in the United Kingdom or its colonial territories. The non-foreign status of the republic and its citizens in the United Kingdom was extended on a reciprocal basis by the separate legislation of other Commonwealth countries. The guarantee to Northern Ireland, embodied in the act, provoked a storm of criticism in Dublin.

India's already proclaimed intention of adopting a republican constitution meant that the form of her existing association with the Commonwealth would have to be changed. "In no way in our external, internal, political or economic policy," Pandit Nehru told the Constituent Assembly on March 8, "do we propose to adopt anything which involves the slightest degree of dependence on any other authority." But in terms of independent nations co-operating together as equals, free from binding commitments, India was prepared to consider future and friendly association with the Commonwealth. Internally and externally her government was much concerned with the advance of Communism in Asia. The attitude of the Communist party in India was described by its prime minister on Feb. 28 as one of open hostility "bordering on open revolt" and it was felt by many that in such circumstances a policy of isolation entailed many risks.

The problem before the dominion prime ministers, who assembled in London on April 21, was whether India's desire to remain a member of the Commonwealth could be reconciled with her resolve to become a republic. The historic communiqué issued on April 27 announced that a satisfactory solution had been found during talks which had been conducted throughout in an atmosphere of goodwill and mutual understanding. India, about to become a soverign independent republic, declared her desire "to continue her full membership of the Commonwealth and her acceptance of the King as the symbol of the free association of its independent member nations and as such head of the Commonwealth," while the other countries of the Commonwealth, the basis of whose membership was specifically declared not to be thereby changed, recognized India's continuing membership on this basis. All, therefore, remained united as free and equal members of the Commonwealth of Nations, "freely co-operating in the pursuit of peace, liberty and progress."

The resolution of India's constitutional problems was warmly welcomed by all parties in the United Kingdom and in most parts of the Commonwealth. After a two-day debate the London declaration was ratified by the Constituent Assembly in New Delhi with only one dissentient vote. Pandit Nehru, in an address to both houses of the Canadian parliament on Oct. 24 during his official visit to north America, spoke of it as "an outstanding example of the peaceful solution of difficult problems" to which the rest of the world might well pay heed. The reaction in Pakistan was, however, reserved. On April 28 its prime minister, Liaquat Ali Khan, underlined the fact that his country had not yet drafted its constitution nor decided whether it should remain freely associated with the Commonwealth as a monarchy or a republic; or whether it should secede. Continuing tension with India on the Kashmir dispute made it clear that although a most difficult constitutional question had been resolved unity of outlook on the Indian subcontinent had by no means been achieved.

Dr. Daniel F. Malan, the Nationalist prime minister of South Africa, who attended the London conference, described it on May 11 as a milestone in the history of the Commonwealth. It had promoted unity and South Africa, even though she might decide to become a republic, was united in her desire to remain in the Commonwealth. The South African government took the view that after the prime ministers' meeting it was no longer constitutionally possible to talk of common status for citizens of Commonwealth countries and the South African Citizenship act, promulgated on Sept. 2, gave this view legal expression. The act provoked much controversy in the Union and some criticism outside, mainly because it extended for British subjects the qualifying period for South African citizenship from two years to five and then required specific application to be made. To a greater extent the racial policies of the Union government continued to arouse critical comment in other parts of the Commonwealth, especially in the Asian dominions. In November Dr. Malan announced that he proposed to ask the United Kingdom to transfer responsibility for the administration of Basutoland, Bechuanaland and Swaziland to the Union.

During the year the Commonwealth governments co-operated closely in the economic field. From July 13-18 the first meeting ever held of Commonwealth finance ministers took place in London and reached complete agreement upon immediate measures to be recommended to governments for checking the continuing heavy drain upon the central reserves of gold and dollars. On Sept. 18 the United Kingdom chancellor of the exchequer announced the devaluation of

the pound sterling in relation to the United States dollar. Similar measures were announced shortly afterwards by the other governments of the Commonwealth with the one exception of Pakistan which decided against alteration in the exchange rate of the rupee.

In both west and east the countries of the Commonwealth were much concerned with the problem of security in 1949. In the west the North Atlantic treaty, signed at Washington on April 4, was of outstanding importance. Two Commonwealth countries, the United Kingdom and Canada, were signatories and elsewhere it was welcomed as reinforcing the defences of the peace-loving peoples of the world. The treaty, approved on March 28 by 149 votes to 2 in the Canadian House of Commons, marked a significant development in Canadian foreign policy for which its Liberal prime minister, Louis S. St. Laurent, whose party later in the year won a resounding electoral victory, was in no small measure responsible. In the eastern half of the Commonwealth, Communist victories in China underlined the need for adequate security measures there. New Zealand introduced compulsory military training in August and in November consultations were held in Canberra between representatives of the United Kingdom, Australian and New Zealand governments to discuss matters relating to the peace treaty with Japan and the situation in eastern Asia. (N. MGH.)

Colonies. It might be said that publicity was the foremost element in the British government's colonial policy in 1949. The outstanding event was the Colonial Month in London inaugurated by the King on June 21. Principal feature of the month was an exhibition, "Focus on the Colonies," which proved so popular that it was found necessary to keep it open till mid-September; it had been visited by over 500,000 people before it closed. The British Broadcasting corporation and many London organizations and business firms with colonial connections featured the colonies in an effort to make the imperial metropolis more conscious of its colonial responsibilities.

The Colonial Loans act, 1949, was enacted to enable the Treasury to guarantee certain loans by the International Bank for Reconstruction and Development to the governments of colonial territories up to a total of £50 million, subject to the purpose of the loan being approved by the secretary of state for the colonies, with the concurrence of the Treasury, as likely to promote the development of the resources of the colonial territory concerned. Under the terms of its charter the International Bank could guarantee or make loans only to members or political sub-divisions of members and, in the case of the latter, "the member or the central bank or some comparable agency which is acceptable to the bank" had to guarantee the loan. The Overseas Resources Development act, 1949, enacted later in the year, provided similar borrowing facilities for the Overseas Food corporation and the Colonial Development corporation.

The Colonial Development corporation published a report on the first year of its operation (to Dec. 31, 1948) showing the nature of the organization it had established and the extent and nature of its initial undertakings. These last proved to be nine in number, ranging from gold dredging in British Guiana to the production of manila hemp in British Borneo; and a further 57 projects were shown to be under active consideration, several of which were announced during the year as having been adopted.

The report on progress under the Colonial Development and Welfare acts for the year ended March 31, 1949, listed a total of 257 development and welfare schemes and 123 research schemes, costing £10,627,509 and £1,652,169 respectively, which had been approved in the previous 12 months, bringing the total sum now approved under the 1940 and 1945 acts as the United Kingdom's contribution to colonial progress to £63,171,574. The amount actually issued in these 12 months was £6,354,084. It had, however, been realized that shortages of materials and manpower in the immediate postwar years had slowed down the implementation of the schemes; in order, therefore, to ensure the smooth operation of the plans now that supplies of men and materials were easier, the Colonial Development and Welfare act, 1949, was enacted to raise the total that might be spent in any one year from £17·5 million to £20 million, and to increase the maximum sum that might be spent on research in the same period from £1·5 million to £2·5 million.

Changes made in the constitution and purposes of the Imperial institute (founded in 1887 as a memorial of Queen Victoria's golden jubilee) resulted in its administration being transferred from the Board of Trade to the Colonial Office and the Ministry of Education. The Colonial Office accepted responsibility for its scientific and technical activities, which will in future be undertaken by a Colonial Plant and Animals Advisory bureau and by the Mineral Resources section of the Colonial survey. Later the secretary of state appointed an Advisory Committee on Colonial Geology and Mineral Resources to advise him on matters relating to the geological survey of the colonial empire.

In June a conference of supplies officers from the colonies was held in London to discuss, first, the need for



Ayo Shonekan from Lagos, Nigeria, handing a bouquet to the Queen at the opening of Colonial Month in July 1949. On the King's right is Arthur Creech Jones, Colonial secretary.



Beef carcases being loaded onto a Dakota aircraft at Lethem, British Guiana, as part of an air lift from Rupununi to Georgetown. Started in 1948 over 200,000 lb. of beef were carried in one year.

colonies to have access to the supplies required for their general economic stability and welfare and for the execution of their development programmes and, secondly, the need to ensure not only that those supplies were obtained with as little expenditure of hard currency as possible but that they should make the maximum contribution towards the solution of the sterling area's dollar problem.

The British government expressed keen interest in the call of the president of the United States to congress on Jan. 20 for a bold new programme for making American technological resources available for the development of underdeveloped areas. Ways and means of giving effect to that programme—known as President Truman's "fourth point"—had still to be worked out, but meanwhile use was made of the Economic Corporation administration's technical assistance programme by the despatch of two groups of American scientists to conduct medical and agricultural surveys of British colonial Africa and by American co-operation in a preliminary survey in connection with the possible construction of a railway link between Northern Rhodesia and East Africa.

There was further evidence during the year of a desire for co-operation in the planned development of the continent on the part of all the authorities responsible for the administration of African territories, whether dependent or self-governing. A number of conferences took place in all of which the British and British colonial governments participated. (J. A. HU.)

BRITISH GUIANA. British colony on the northeast coast of the continent of South America. Area: 89,480 sq. mi. Pop. (1948 est.): 402,615. Governor, Sir Charles Woolley.

History. The Legislative Council approved the colony's ten-year development plan, which called for an expenditure of $26 million. Remarkable progress was announced in a campaign to rid the colony of malaria and it was claimed that 95% of the population was now free of its ravages. In July two United States experts arrived to study rice production methods and to advise the local government on its proposed programme for large scale expansion of the industry. Food subsidies were abolished in the spring when the only two remaining subsidies—on flour and salted fish—which had cost nearly $2 million in 1948, were withdrawn: but following devaluation in September it was found necessary to reintroduce certain subsidies. The second goodwill meeting of the governors of the British, French and Dutch Guianas was held in Georgetown in February. U.S.A.A.F. handed over Atkinson Field Air base (one of its wartime Caribbean bases) to the local government, which agreed to purchase 300 buildings and a large quantity of equipment for approximately $1 million; certain buildings remained U.S. property, but on loan to the local government. The governor announced that the secretary of state had promised to appoint a commission on constitutional reform in 1950.

Finance and Trade. Currency: West Indian dollar ($4·80=£1). Budget (1948 provisional figures): revenue $20,601,599; expenditure $19,616,692. Foreign trade (1948): imports $48,181,000; exports $36,993,859. Principal exports: sugar, bauxite, rum, rice, diamonds and timber. (J. A. HU.)

BRITISH HONDURAS. British colony in central America. Area: 8,867 sq. mi. Pop. (1946 census): 59,220. Governor, R. H. Garvey.

History. The claims of Guatemala to the territory continued to give rise to some uncertainty as to its future status; a resolution in the Legislative Council stressed the people's loyalty to the British connection but at the same time urged upon the British government the imperative necessity to take all proper steps to bring about the speedy determination of the claim made by the government of Guatemala. In a reply to this resolution the British government stated *inter alia* that, while remaining willing to submit the legal claim to the International Court of Justice for adjudication, "it remained inflexibly determined that, in the absence of a legal decision by the International Court that His Majesty has no legal claim to sovereignty over British Honduras, it will not countenance any change in the international status of the colony or any part of it."

The Hawkesworth bridge, a new suspension bridge 480 ft. long with a centre span of 280 ft., over the Lower Belize river was opened, thus completing the all-weather road from the capital to the Guatemalan frontier. In general, the achievements in the development programme were over-

shadowed by widespread unemployment due to the collapse of the mahogany and chicle industries.

Finance and Trade. Currency: dollar, linked in value to the U.S. dollar. Budget (1948): revenue $3,208,623; expenditure $3,394,916. Foreign trade (1948): imports $8,075,460; exports $6,152,010. Principal exports: timber, chicle and grapefruit juice. (J. A. HU.)

BRITISH LEGION: *see* EX-SERVICEMEN'S ORGANIZATIONS.

BRITISH PACIFIC ISLANDS: *see* PACIFIC ISLANDS, BRITISH.

BRITISH SOUTH AFRICAN PROTECTORATES. Under this heading are grouped the three British protectorates of Basutoland, Bechuanaland and Swaziland, of which certain essential statistics are given in the table. High Commissioner, Sir Evelyn Baring.

History. The year reviewed was one of continued, progress with schemes financed under the Colonial Development and Welfare acts and, in Swaziland, of growing political activity of the Native authority. The economic future of Swaziland was also brightened by the announcement of an 100,000 ac. afforestation scheme to be started by the Colonial Development corporation.

The territories attracted interest during 1949 owing to the incidence of ritual murder in Basutoland, a crime of which 121 Basutos have been convicted during the past seven years, and the marriage between Seretse Khama, heir to the chieftainship of the Bamangwato tribe in Bechuanaland with an English woman named Ruth Williams. This latter question, which was the subject of a special government enquiry, had repercussions in the Union of South Africa where, it was announced, the chief designate and his white wife had been declared "prohibited immigrants."

In October, Dr. D. F. Malan, the Union prime minister, said in a speech at Bloemfontein that he was only waiting for the appropriate moment to make representations to the British government for the incorporation of the protectorates into the Union of South Africa.

Basutoland. Progress in the political sphere was marked by the increase to 24 of the number of the elected representatives in the Basutoland council. An endeavour was made to encourage an agricultural co-operative movement by the appointment of an official as registrar of co-operative societies. This step was expected to help a territory largely dependent upon pastoral and agricultural resources.

Education was remarkably popular with the Basuto and 75% of children attended school. Expenditure on education was about one-fifth of revenue. Construction was started on the sixth government hospital. The number of patients attending all hospitals was double that of ten years ago. Welfare societies, with community halls, were formed in each district. During 1949 the first of these, with a library, was opened.

Bechuanaland. Schemes for surface water conservation were approved. These aimed at constructing small stock dams and minor permanent works in existing waterways. Boring for water was also continued. A teacher training institute was planned to improve the standard of education in the villages. A secondary school, initiated by the Bamangwato tribe, under Chief Tsekedi, was opened in its reserve.

Swaziland. Under a Native land settlement scheme valuable work was done, not only in settling landless families, but also in proper methods of land utilization and animal husbandry. Over 500 families were settled during 1947-49 and settlement for another thousand was planned. By voluntary contribution the Swazi nation raised funds to purchase 73,900 ac. from European owners.

A company, named Peak Timbers, Ltd., began commercial afforestation of an area of 57,000 ac. purchased by them in 1946 in the Pigg's Peak district. Production at the Havelock asbestos mine reached 218,608 tons for the year ending March 1948. The campaign against Ngana (animal trypanosomiasis) met with considerable success through the help of bulldozers for bush clearing and through aerial spraying.

(W. R. GN.)

BRITISH WEST AFRICA. The term includes the four British colonial territories on the west coast of Africa, viz., Nigeria, colony and protectorate with which are administered the Cameroons under United Kingdom trusteeship; the Gold Coast, including the colony of that name, Ashanti, the Northern Territories and Togoland under United Kingdom trusteeship; Sierra Leone, colony and protectorate; and Gambia, likewise a colony and protectorate. Areas and populations were as follows:

	Area (in sq. mi.)	Population 1931 Census	Population 1948 Census
Nigeria	372,674	20,702,756	25,000,000*
Gold Coast	91,843	3,163,568	4,118,450
Sierra Leone	27,925	1,768,480	1,857,275
Gambia	4,033	199,520	251,000*

* Estimates.

Governors: Nigeria, Sir John Macpherson; Gold Coast, Sir Charles Arden-Clarke; Sierra Leone, Sir G. Beresford Stooke; Gambia, P. Wyn Harris.

History. Public interest in West Africa in 1949 centred almost exclusively in the discussion of constitutional changes. In Nigeria in March the Legislative Council unanimously approved the proposals of a select committee of its members (set up on a suggestion made by the governor the previous year and including all the unofficial members) that the review of the present constitution should consist of conferences at three levels: the provincial, the regional and at the centre. Discussions began immediately and were continued throughout the year. Provincial conferences considered the views of village and divisional meetings and of representative organizations; the views formulated at provincial conferences were then, in turn, considered at regional conferences, at which level conferences for Lagos and the colony were included. The views of these regional conferences were incorporated in a series of resolutions, published in October, and were then submitted to a drafting committee to prepare a statement for consideration by a general conference consisting of all unofficial members of the Legislative Council and representatives of the regional, Lagos and colony conferences. Meanwhile in September the governor announced that, pending a decision on constitutional changes, it had been agreed that African representation on the Executive Council

BRITISH SOUTH AFRICAN PROTECTORATES

Area (in sq. mi.)	*Population* (1946 census)	*Capital*	*Trade with Union of South Africa and Rhodesias* (1947-48)	*Road and Rail* (1947-48)	*Budget* (1947-48)	*Education* (1947-48)
BASUTOLAND c. 11 716	560,000	Maseru	Imports, £1,807,246 Exports, £1,336,269	Roads, 502 mi. Railway, none	Revenue, £900,654 Expenditure, £886,937	Native pupils 87,038 Europeans 96
BECHUANALAND c. 275,000	245,000	Mafeking	Imports, £1,176,037 Exports, £753,788	Roads, 2,048 mi. Railway, 394 mi.	Revenue, £483,029 Expenditure, £475,502	Native pupils 16,346 Europeans 195
SWAZILAND 6,704	187,000	Mbabane	(In customs union with South Africa) Exports, £1,417,629	Roads 1,104 mi. Railway, none	Revenue, £471,412 Expenditure, £523,335	Native pupils 11,012 European 552

should immediately be resumed and strengthened and he had accordingly appointed four Nigerians.

In the Gold Coast in January the governor set up an all-African committee of 39 members under the chairmanship of Mr. Justice J. H. Coussey to examine proposals for



The Labadi Mantse arriving in his palanquin at a durbar at Accra on Feb. 5, 1949, when the Ga Mantse was presented to the governor, Sir Gerald Creasy.

constitutional and political reform. Its report, unanimous on the majority of its principal recommendations, was published in October. After declaring that the whole institution of chieftaincy was so closely bound up with the life of the communities that its disappearance would spell disaster, the committee recommended: (1) a complex system of local government, in part utilizing the existing Native authorities but superimposing a democratic framework by means of popular elections; (2) the establishment of four regional councils with wide powers; (3) that the Executive Council should be entirely remodelled as the chief instrument of policy, responsible to the proposed House of Assembly and not to the governor, and should consist of the governor as chairman, not more than three official members, and upwards of eight unofficial members (one to be styled " leader " and the others " ministers "); and it expressed a slight preference for a bi-cameral legislature. In a statement published simultaneously with the report the British government both welcomed and accepted its recommendations in general; but it favoured a unicameral legislature and stated its inability at this stage to accept the suggestion, in the form proposed, that the Executive Council should be collectively responsible to the Legislative Assembly and not to the governor.

Meanwhile on opening the Gold Coast Legislative Council on Oct. 11 the governor announced that he had appointed E. C. Quist, an unofficial member, to be president for the remainder of the life of the council.

In Sierra Leone the constitutional changes approved in 1948 were not in fact proceeded with, a motion in the Legislative Council in Dec. 1948 having called for a further review of the proposals. In June the governor published new proposals recommending an Executive Council of four official and four unofficial members, the latter drawn from, and appointed by the governor after consultation with, the Legislative Council; the Executive Council to be responsible, as a body, for advising the governor on all major matters of policy and the four unofficial members each to take a special interest in a group of departments with a view to holding portfolios; the proposals also covered the development of local government, regarding which the governor stressed the need for a substantial measure of decentralization. It was suggested that a committee (presided over by an independent chairman and representative of the colony, the protectorate and the executive) should consider these new proposals.

The report of three United Nations scientists who visited the Gold Coast in Nov.-Dec. 1948 was published in January and confirmed that swollen shoot threatened the very existence of the cocoa industry of the Gold Coast and that the cutting out of diseased trees was the only measure known for its control (*see* ENTOMOLOGY). In February the publication of new regulations for immigration procedure into the Gold Coast raised an outcry in Great Britain; and following protests in the British parliament and the local Legislative Council, they were withdrawn and re-drafted.

It was announced in July that the Gold Coast government had placed a contract for certain improvements and extensions to Takoradi harbour at an expected cost of £2,250,000. Work continued on the construction of Freetown's deep-water quay. A panel of experts arrived in the Gold Coast in October to survey the industrial and transport potentialities of the Volta river.

In Nigeria in August the unsatisfactory labour situation on the railways led to the appointment of a commission of enquiry, which was boycotted by the trade unions. In November a strike at the government colliery at Enugu gave rise to serious disturbances in which a number of Africans were killed. A commission of enquiry was again appointed, under the chairmanship of Sir William Fitzgerald, which began sitting in Enugu in mid-December.

Finance and Trade. Currency: the pound at par with sterling.

	Gambia	*Gold Coast*	*Nigeria*	*Sierra Leone*
Revenue	£866,900(a)	£11,639,324(b)	£27,940,940(c)	£4,260,145(d)
Expenditure	£1,014,097(a)	£10,178,802(b)	£27,230,290(c)	£2,666,444(d)
Imports (1948) *c.*	£1,938,000	£29,158,749	£41,777,239	£4,979,350
Exports (1948) *c.*	£1,706,000	£31,615,712(e)	£38,327,220(e)	£4,164,566(f)

(a) 1948. (b) 1948–49. (c) 1949–50 est. (d) 1949 est.
(e) The values of cocoa recorded in the export statistics are the f.o.b. cost prices to the Gold Coast and Nigerian Cocoa Marketing boards and thus exclude the profits realized by the boards on sale to overseas purchasers. In 1948 these profits amounted in the Gold Coast alone to £20,013,017.
(f) The value of the diamond exports (461,685 carats) was not quoted. Palm kernels and palm oil are quoted at f.o.b. cost prices.

Principal exports: Gambia: groundnuts (£1,628,002 in 1948); Gold Coast: cocoa, gold, manganese and timber; Nigeria: cocoa, groundnuts, palm oil and kernels, tin, and hides and skins; Sierra Leone: palm kernels, diamonds and iron ore. (J. A. HU.)

BRITISH WEST INDIES. Under this heading are treated matters of common concern to the British West Indian colonies which comprise Barbados, British Guiana, British Honduras, Jamaica, Leeward Islands, Trinidad and Tobago and Windward Islands. Total area: 106,415 sq. mi. Total pop.: *c.* 2,970,600. (*See* also separate articles on the respective colonies.)

Steady progress was made during the year with work to give effect to the Montego Bay (Sept. 1947) recommendations on closer association. The Standing Closer Association committee under the chairmanship of Major General Sir Hubert Rance, having held its first session in Barbados in Nov. 1948, held further meetings in Trinidad in March, in Barbados in June and in Jamaica in Oct. 1949. The meetings were held in private; but it was disclosed that the committee had reviewed the functions of a federal government, the constitution of a federal legislature, the composition of a federal executive and the financial basis of federation including relations between a federal government and the unit governments and between these and the British government. It was understood that final proposals were agreed at the October meeting. Meanwhile commissions to examine the unification of the public services in the British Caribbean area and of a customs union for the West Indies commenced work

under the chairmanship of Sir Maurice Holmes and J. McLogan respectively.

The Earl of Listowel, minister of state for colonial affairs, carried out a comprehensive two-month tour of the British West Indies during October and November and presided over an unofficial conference of the governors at Barbados from Nov. 7–12.

Two sugar deputations, the first a four-man commission appointed by the British West Indies Sugar association and the second from Jamaica led by W. A. Bustamante, arrived in London in late summer to press for better terms for West Indian sugar. After talks the British government issued a statement saying that it recognized the vital importance of the prosperity of the sugar industry to the West Indies and promising to call a conference in the autumn with all Commonwealth sugar producers to agree terms; later it was announced the conference would begin on Nov. 21.

The University college of the West Indies was formally launched in January when it was announced that the King had granted a royal charter and that Princess Alice, Countess of Athlone, was appointed its first chancellor.

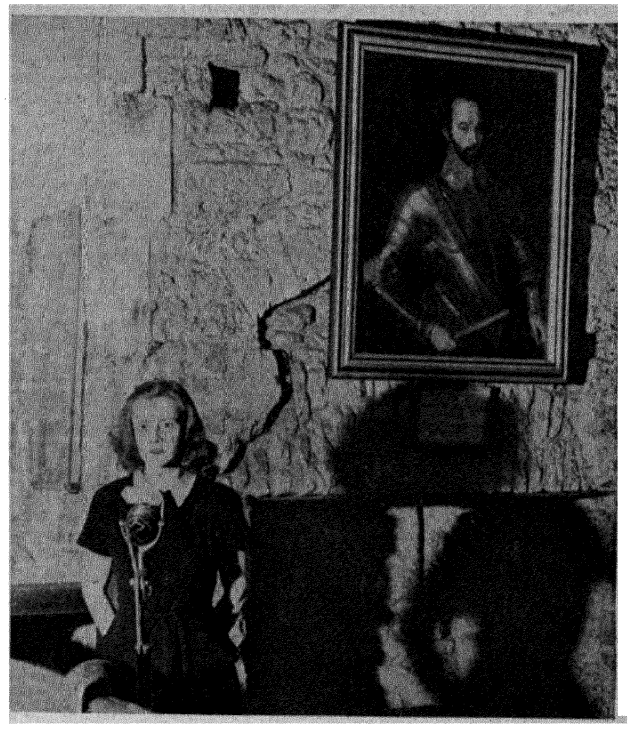
Other events of common concern to the British West Indies were talks held in Barbados in February between the United Kingdom, Canadian and West Indian governments for a preliminary and informal exchange of views on future shipping services; the third full meeting, also at Barbados, of the West Indian Oils and Fats conference, called primarily to fix the price of copra for the coming season; and the establishment of a Federation of Primary Producers of the British Caribbean and British Guiana. (J. A. HU.)

BRITTEN, (EDWARD) BENJAMIN, British pianist, composer and conductor (b. Lowestoft, Nov. 22, 1913), was educated at Gresham's school, Holt, and at the Royal College of Music, London. He was with the post office film unit from 1935 to 1937, when he wrote music for such documentary films as *Night Mail* and *Coal Face*. At the same time he composed music for plays by W. H. Auden and Christopher Isherwood and by J B. Priestley. In April 1939 he went to New York where he remained until 1942; many of his works were performed by American orchestras. In 1940 he collaborated with Auden in adapting his book *Paul Bunyan* for choral operetta. In Nov. 1941 he received the Elizabeth Sprague Coolidge award for "distinguished services to chamber music." His first full-length opera was *Peter Grimes* (1944), followed by *The Rape of Lucretia* (1946), Albert Herring (1947) and by a new version of *The Beggar's Opera*. Living at Aldeburgh, Suffolk, he helped to found the Aldeburgh Festival where in 1949 he presented a children's opera, *Let's Make an Opera*, with Eric Crozier. In 1947 he was appointed musical director of the English Opera group and in Sept. 1949 conducted three performances of the group in Oslo, Norway. His 44th composition "Spring Symphony" was first performed at the music festival at Amsterdam in 1949 and was played for the first time in the United States by the Boston symphony orchestra at Tanglewood on Aug. 13, 1949. He wrote a wedding anthem *Amo Ergo Sum* for the wedding of the Earl of Harewood and Miss Marion Stein on Sept. 29, 1949.

BROADCASTING. Once again the international implications of the medium occupied the attention of radio organizations throughout 1949. In the first place, the working out of the medium wave allocations agreed upon at the Copenhagen conference in 1948 proved to be both onerous to those countries who readily accepted its decisions and controversial where its provisions led to results not fully seen by the negotiators on the spot. As late as December meetings were being held in Washington at which the fulfilment of the plan hung in the balance, and there was no guarantee that the deadline of March 1950 would, in fact, be observed. The even more complex subject of short waves was argued for months at Mexico City. Finally, in April 1949, 51 delegations accepted a plan, the first world plan of short wave distribution ever to be agreed, which was based on what is known as "summer intermediate sun activity." The adaptation of the plan, which was passed to a technical committee, although bound to decrease the number of frequency hour availabilities, by introducing proportionate reductions from country to country, would not involve the disappearance of programmes already in being. Unfortunately, both the U.S.A. and the U.S.S.R. were included in the 18 delegations which remained negative. Meanwhile in Europe steps were taken towards the formation of a European broadcasting organization which should be fully representative of the democratic powers. In 1949 two organizations existed, the Union Internationale de Radiodiffusion (U.I.R.) based in Switzerland and, during World War II, largely dominated by Germany; and the Organisation Internationale de Radiodiffusion (O.I.R.) based in Belgium and largely dominated by east European countries. From both of these organizations the B.B.C, largest and most powerful of the European radio bodies, stood aside. At Stresa, Italy, in the summer some progress was made towards ending the deadlock, the B.B.C being represented in unofficial discussions with members of the U.I.R. At Brussels, Belgium, in the autumn, some significant resignations from O.I.R took place. It was possible that 1950 would see "western union" accomplished in this field. Already, on the cultural side, there was good progress to record with the award of the first *Italia* prize, a competition for an original work for radio to which 12 countries contributed, including Czechoslovakia, Finland and Monaco. An international jury made the first award to France, for a musical farce entitled *Frederick the General*, the second to Great Britain for a radio reconstruction of *The old and true story of Rumpelstiltskin* and the third to Monaco for *Lost Song*, a radio film. The *Italia* prize was created a foundation, and would be given, in alternate years, for musical and literary works. Further evidence of international co-operation came from the northern European states. In June, Danish, Finnish, Icelandic, Norwegian and Swedish representatives met in Stockholm, Sweden, and decided to embark on an ambitious series of relays, involving concerts, Nordic art, drama and literary chronicles. Continuous exchange of technical data was also agreed upon. The Swedish programmes for the autumn showed that Radiotjanst at least had been practically and fully influenced in its planning by the decisions of this conference. Finally, on the international theme, it should be recorded that the number of services to foreign countries and audiences overseas increased considerably in 1949 (the majority of these being on short wave was likely to be affected by the Mexico City decisions); it was possible to listen, for instance, to Danish broadcasts to South Africa, Polish broadcasts to Yugoslavia, Italian broadcasts to Somaliland and Rumania, Norwegian broadcasts to seamen all over the world and even Albanian broadcasts to Britain.

Great Britain. A considerable amount of time and energy was expended on activity which was the reverse of international. As a result of intensive Russian jamming of B.B.C. broadcasts, the B.B.C. in collaboration with stations in the U.S. zone of Germany, retaliated by bringing an unparalleled transmitter strength to bear on the U.S.S.R. More constructively, perhaps, the B.B.C. increased its listeners to *English by Radio* courses not only in western Europe but also in some east European states. Over 1,000 Bulgarian listeners, for instance, wrote to London for texts of a progressive course of lessons. From eastern Germany, too, came a heavy mail

as the result of a new programme intended to keep the population in touch with the outside world. Outside Europe, a new B.B.C. service was inaugurated in the autumn to Israel, in Hebrew, the first of its kind in the world. Within the Commonwealth, separate transmissions were begun for India and Pakistan in place of the previous combined Hindustani service. Arrangements between the governments of the United Kingdom and Ceylon allowed for the use during eight-and-a-half hours every day of Radio Ceylon (formerly Radio S.E.A.C.) for transmitting B.B.C. programmes to the far east. Re-broadcasting on the other side of the world was not seriously affected by television, a record number of stations in the U.S.A. and Canada carrying B.B.C. material. At home, however, public interest in the spread of television to the midlands outshone other developments (*see* TELEVISION). However, an even vaster public than in previous years became addicted to radio drama (in the "blind" medium, as it was now popularly known), and there were few listeners who did not genuinely mourn the death of Tommy Handley (*see* OBITUARIES), the chief comedian of *Itma*, a programme whose absurdities had enlivened the public throughout and after World War II. Various experiments were made in the talks and discussion programmes for home listeners, including the examination before the microphone, by a variety of witnesses, of such public figures as Sir Stafford Cripps, and the presentation before a studio audience of lectures previously delivered by a regius professor within the precincts of Cambridge. During the year, the studios in Edinburgh, Plymouth and Belfast celebrated their silver jubilee. A government committee under Lord Beveridge began its enquiries into the future of British broadcasting and television.



Mrs. Lesley Piddington, who with her husband, Sydney, gave a series of broadcasts in 1949 in which they demonstrated thought transference. She is seen here in the Tower of London while her husband was in a B.B.C. studio.

Europe. German developments were the most spectacular. In the American and British zones it was decided that the only satisfactory coverage, after the Copenhagen plan came into operation, would be by frequency-modulation transmission on ultra-short waves. The industry was accordingly requested to produce receivers. If the plan went through, which seemed probable, Germany would be the first European country to introduce ultra-short wave broadcasting on a large scale. In the meantime, the Bavarian radio, with American permission, became commercial; and in Berlin the U.S.-controlled R.I.A.S. instituted a system unique in Europe, whereby telephone subscribers by dialling a certain number were connected to a non-stop news service, recorded on magnetic tape, and changed three times daily. The Italian and Austrian broadcasting organizations celebrated their 25th anniversaries; whereas the latter signalized the occasion by arranging for better concerts (including those of the Vienna Philharmonic orchestra), than had ever hitherto been heard, the former, eager to attract more listeners, and especially those who paid licence fees, arranged lotteries, prize-winning tickets from which carried the numbers of licences already issued. Cars, bicycles, pleasure tours and watches were among the prizes, and the number of paid-up listeners was higher than ever before in the quarter century of R.A.I. On the other side of the "iron curtain," more and more attention was paid to education, which, whether for the young or for adults, was made the vehicle of much party propaganda. In Poland, however, and to a certain extent in Czechoslovakia, this increasing use of the radio for political propaganda did not prevent the emergence of programmes of good music. The French radio gave some time to the project of a radio university, while in Switzerland the chief developments were in discussions with listeners taking part and in plays specially written or adapted for the medium.

Commonwealth. As in Great Britain, broadcasting in Australia and Canada came under enquiry during the year. A new control board in Australia, while approving the basic system, in which public service and commercial broadcasting services existed side by side, declared that many improvements were necessary to supply listeners with an adequate broadcasting service. The board intended to enforce standards governing the quality of programmes and advertising if necessary, and to reduce the amount of the latter. In Canada a Royal Commission on Arts, Letters and Sciences was still sitting at the end of the year. To it both private broadcasters and the Canadian Broadcasting commission had submitted evidence, the former asking for equal rights with the C.B.C., the latter declaring that judgment in broadcasting matters should be based solely on public interest and calling for a fully national radio system, owned and supported by the public. South Africa's earlier declared intention to pursue commercial broadcasting as a new policy was now understood to involve no separate organization. The S.A.B.C. would remain in charge of three programmes, of which the third would be commercial. India announced an eight-year plan for extending radio throughout India, serving ten times the former area and reaching 80,000 villages instead of the then 5,000. The government were to provide receiving sets and loudspeakers. In the colonies, interest in broadcasting was growing apace. It was understood that certain funds might shortly be made available for erecting new stations, especially in British West Africa and the West Indies. The B.B.C. was called into consultation by the Colonial Office and undertook service surveys for the government at home. The public service system, of which the B.B.C. was the outstanding example, was likely to be adopted in these areas, and the B.B.C. was expected to be called upon to play a large part in all colonial broadcasting plans. (X.)

United States. According to figures compiled by O. H. Caldwell, editor of *Tele-Tech* magazine, the number of radio receiving sets in use in the U.S. in 1949 was 81 million compared with 74 million in 1948.

A Federal Communication commission report, issued in Dec. 1949, reflecting 1948 conditions, showed A.M. (amplitude modulation) broadcast revenues of $406,995,414; broadcast expenses of $342,903,730, and broadcast income of $64,091,684 before payment of federal income taxes. Despite an 11·9% gain in revenues net income fell 10·73% below the 1947 level, owing to a 17·5% rise in operating costs. The figures were based on reports from seven A.M. networks and 1,797 other A.M. stations.

Sales of advertising time, the financial backbone of broadcasting, totalled $416,720,279 during 1948.

In August, the Federal Communications commission made final its proposal to ban, from Oct. 1, programmes which offered prizes of money, merchandise and services, by classifying them as lotteries. At the time, the four major networks were carrying 38 " give-away " programmes which, according to the estimates by *Broadcasting* magazine, offered $185,000 worth of money and merchandise in prizes each week. Before the effective date, the F.C.C. suspended its rules pending court tests of their legality. By the end of the year, however, " give-away " programmes were already beginning to decline in popularity. " Mystery " features began to replace variety shows as the dominant type of commercial evening programme.

The table below, prepared from information by C. E. Hooper, Inc., shows the general composition of commercial evening programmes broadcast on the four national networks during the week of Nov. 1-7, 1949, compared with the same week of 1948.

TABLE.—GENERAL COMPOSITION OF NETWORK COMMERCIAL EVENING PROGRAMMES, NOV. 1-7, 1949 AND 1948.

	Percent of time on the air	
Type of Programme	1949	1948
Mystery	16·0	13·2
News and commentators	15·7	15·4
Variety	12·6	16·9
Situation comedy	12·6	9·1
Popular music	11·8	11·9
Audience participation	11·8	9·4
Plays	9·9	12·5
Concert music	2·3	3·1
Radio columnists	1·9	3·5
Miscellaneous	5·4	5·0

The inauguration of President Harry S. Truman for a second term and Alben W. Barkley as vice-president was taken by radio and television to more viewers and listeners than ever before. In addition to domestic coverage, the State Department's " Voice of America," the B.B.C. and *Radiodiffusion Française* relayed shortwave accounts overseas. Vice president Barkley's marriage to Mrs. Carleton S. Hadley on Nov. 18 was also widely followed by listeners.

In April 1949, the board of directors of the National Association of Broadcasters approved a $75,000 loan to the Broadcast Measurement bureau, an audience measurement organization sponsored by the N.A.B., the American Association of Advertising Agencies and the Association of National Advertisers. The loan was to finance the completion of the bureau's second national audience survey, in progress in 1949.

The Federal Communications commission handed down several policy-making decisions in 1949, one of which reversed the long-standing " Mayflower decision " forbidding radio station owners to " editorialize " on the air. Henceforth, the F.C.C. said in a new decision issued on June 2, broadcasters might air their own views on controversial and other issues, provided they treated with " fairness " those who wished to present opposing viewpoints.

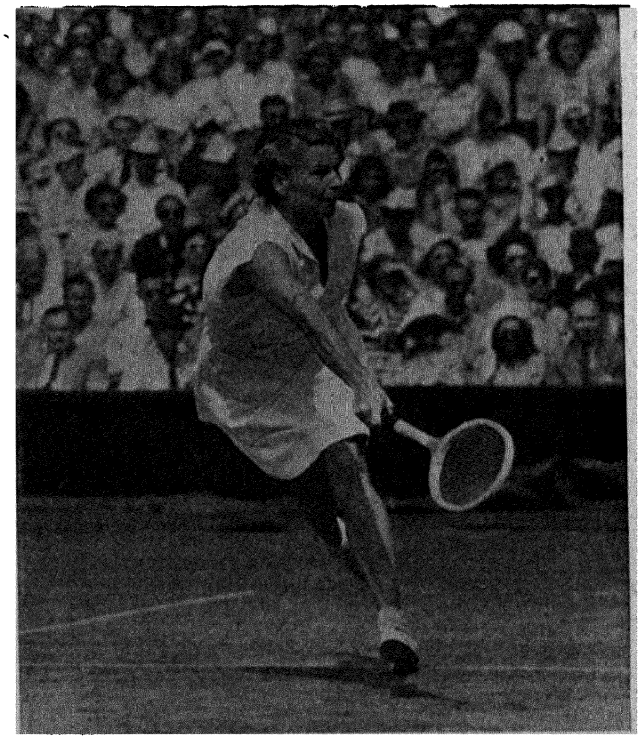
In congress, the senate passed a bill introduced by Senator E. W. McFarland (Democrat, Arizona) to reorganize the F.C.C.'s staff and procedures. The house of representatives failed to act, but leaders said it might do so in 1950.

The North American Regional Broadcasting agreement which had governed allocations among North American nations since 1941, expired on March 29, 1949. Conferences to negotiate a new agreement were commenced in Montreal in September under a schedule set up prior to N.A.R.B.A.'s expiration; in December they were adjourned, stalemated by the U.S. refusal to accept Cuban demands for rights on scores of channels previously within U.S. priority. The U.S. and Cuban delegations were scheduled to confer in Havana from Feb. 1, 1950 onwards, in an effort to smooth out their differences, and the full N.A.R.B.A. conference was then scheduled to resume in the U.S. on about April 1, 1950. Nations involved were the Bahamas, Canada, Cuba, the Dominican republic, Haiti, Mexico and the U.S. (*See* also RADIO, SCIENTIFIC DEVELOPMENTS IN; TELEVISION.)

(R. W. CR.; S. TF.)

BROOKE, SIR BASIL STANLAKE, Northern Ireland statesman (b. Colebrooke, county Fermanagh, June 9, 1888), became prime minister on May 1, 1943. (For his early career see *Britannica Book of the Year 1949*).

The action of the government in Ireland in severing the last link with the Commonwealth caused Sir Basil Brooke to obtain assurances from the British government that the status of Northern Ireland would not be changed without the consent of its people. He visited London in Jan. 1949 and on his return to Belfast announced the dissolution of parliament. In the general election, held on Feb, 10, the Unionist party was again returned to power. During a visit to Britain in May he addressed the Empire Industries association and the British Empire league and visited the British Industries fair. In August he was appointed honorary air commodore of three squadrons of the R.A.A.F. In October he attended the annual meeting of the Ulster associations at Manchester and afterwards toured the West Riding of Yorkshire. He visited London in November for talks with British ministers and representatives of the E.C.A.



Louise Brough seen here winning the 1949 women's singles championship at Wimbledon against Mrs. Margaret duPont.

BROUGH, ALTHEA LOUISE, U.S. lawn tennis player (b. Oklahoma city, Oklahoma, March 11, 1923), moved with her family in 1936 to Beverly Hills, California, where she began studying tennis under Dick Sleen. By 1941 she had won the southern California junior championship. She began studying at the University of Southern California, Los Angeles, and in the national championship matches in 1943, when she was a junior at the university, lost to Pauline Betz for the women's singles title. In 1946 she was beaten by Miss Betz in the All-England tennis championships singles at Wimbledon, but, paired with Margaret Osborne, defeated Miss Betz and Doris Hart to win the doubles title. In 1947 she took four important championships: the U.S. women's singles and the mixed doubles (with John Bromwich, Australia) at Forest Hills, New York; the Wimbledon mixed doubles (with Bromwich); and the national women's doubles (with Miss Osborne). In July 1948 she matched the feats of Alice Marble and Suzanne Lenglen by winning three Wimbledon titles: the singles, the women's double (with Mrs. Margaret Osborne duPont) and the mixed doubles with Bromwich. In Aug. 1948 she won the eastern women's singles championship for the third time, taking permanent possession of the Schweikhardt Challenge cup, and for the seventh time (with Mrs. duPont) won the women's national doubles. At Wimbledon in July 1949 she took the singles title by defeating Mrs. duPont; was beaten in the final of the mixed doubles (again partnered by Bromwich) and with Mrs. duPont took the women's doubles. At Brookline, Massachusetts, on Aug. 21, she and Mrs. duPont defeated Doris Hart and Shirley Fry in the U.S. doubles. She again won the mixed doubles at Forest Hills on Sept. 6.

BROWN, DOUGLAS CLIFTON, British parliamentarian (b. London, Aug. 16, 1879), was educated at Eton and at Trinity college, Cambridge. He served in the Dragoon Guards in the South African War and in World War I. In 1918 he was elected Conservative member of parliament for Hexham and except for the years 1923-24 continued to sit in the House of Commons. He became deputy chairman of ways and means in 1938 and in Jan 1943 succeeded Sir Dennis Herbert (later Lord Hemingford) as chairman of ways and means and deputy speaker. After the sudden death of Captain E. A. Fitzroy on March 3, 1943, Colonel Clifton Brown was unanimously elected speaker. Despite a Labour majority after the general election in July 1945 he was again elected speaker without opposition. In Jan. 1949 he accompanied an all-party parliamentary delegation to Italy where he addressed Italian deputies and senators on British parliamentary practice. It was the first time a speaker of the House of Commons had visited another parliament. In June he visited Copenhagen to take part in the celebrations of the centenary of the Danish constitution.

BROZ (TITO), JOSIP, Yugoslav statesman and soldier (b. Kumrovec, Croatia, May 25, 1892), prime minister of the federal people's republic of Yugoslavia and commander in chief, as marshal, of its armed forces. (For his early career see *Britannica Book of the Year 1949*).

As the propaganda campaign of all Communist-controlled countries against Tito continued during 1949 to increase in violence, the Yugoslav leader was forced to make many public replies. On Jan. 21, addressing the congress of the Serbian Communist party in Belgrade, he complained against "the false propaganda directed against a Socialist country." On April 9, at the congress of the Yugoslav People's front in Belgrade, he called for resistance to the Cominform appeal for forcible removal of the existing leadership of Yugoslavia; he also announced that Yugoslavia would not hesitate to trade with the west on equal terms in order to obtain equipment vital for industrialization. At Pola, on July 10, he announced that Yugoslavia must gradually close her frontier with Greece. In a speech to shopworkers at Belgrade on Sept. 12, he challenged the Soviet theory of the exclusive revolutionary role of the Soviet army, and maintained that progressive ideas could never be propagated by bayonets. Widening the ideological rift between Yugoslavia and the U.S.S.R., he said at Stolice, Serbia, on Sept. 27, that great powers must understand that they could not buy or sell the freedom of small nations. Addressing 600 Yugoslav generals and other officers at Belgrade on Oct. 2, Tito proclaimed that the army was prepared to defend Yugoslavia until the last breath and regardless whence the attack came. In an interview with a U.S. Progressive party member, Tito asserted on Oct. 17 that if war came to the soil of Yugoslavia "it would be no isolated situation but a world war."

BRUNEI: *see* BRITISH BORNEO.

BRUSSELS, TREATY OF: *see* WESTERN UNION.

BUDGET, NATIONAL. The year 1949 witnessed considerable progress towards the consolidation of the budgetary situation in Europe. Until about 1947-48 postwar inflation was proceeding in most countries. There were large budgetary deficits and the purchasing power created through an excess of government spending over receipts sent up prices. Higher prices affected expenditure within a very short time, while there was usually a longer time-lag before revenue adapted itself to the higher price level. Consequently, budgetary deficits and price levels tended to stimulate each other's rise in a vicious spiral In order to arrest this process, a series of drastic monetary and financial reforms were carried out on the continent during 1947 and 1948 as a result of which it became possible to check inflation. Even if budgetary equilibrium was not reached in many countries, the size of the deficits was reduced to controllable dimensions. A number of countries even succeeded in balancing their budgets. Nevertheless, conditions remained inflationary, no longer on account of budgetary deficits but through rising wages and the inadequacy of supplies of consumer goods to meet demand. To correct the situation, a "disinflationary" budgetary policy was adopted in Great Britain and other countries, which aimed at mopping up excessive purchasing power through revenue surpluses.

The basic principle of such disinflationary budgetary policy was that it was directed both against purchasing power created through excessive government spending and against demand for goods through rising personal earnings. It differed from a deflationary budgetary policy in that it did not aim at causing a fall of prices and wages. The difference was one of degree but, although disinflationary budgetary policy was compatible with a policy of full employment, a deflationary policy was not.

During 1949 anti-inflationary efforts dominated budgetary trends in Europe. Non-stop inflation came to an end everywhere, with the exception of Greece where the conditions created by the civil war made it impossible to deal adequately with budgetary and monetary problems. The reforms carried out in 1947 and 1948 in Germany, Italy, Rumania and Hungary resulted in progress towards budgetary equilibrium.

Most countries sought to stabilize their budgets around their high postwar level: no substantial attempts were made towards budgetary deflation. The governments concluded that it was easier to maintain taxation at a high level than to carry out drastic cuts in expenditure. This attitude was in keeping with the change in the balance of power in domestic policies that took place in Europe after World War II in favour of socialism. Even in countries where socialists did

not actually control the government, their influence was strong enough to enforce budgetary policies favouring a process of levelling down incomes and fortunes by means of high taxation rather than a reduction of expenditure through curtailing social service charges (which rose considerably everywhere after World War II) for the sake of granting taxation reliefs. Moreover any large cuts in expenditure would have caused unemployment, directly or indirectly. With the exception of Belgium and Italy, none of the European countries ventured on such an unpopular course because, apart from any other reasons, it was feared that the discontent aroused by such a budgetary policy would allow Communists to strengthen their influence among industrial workers.

Precautionary national defence expenditure in western Europe rose. Although the United States agreed in 1949 to provide assistance for countries of the North Atlantic treaty in the form of arms delivery free of charge, the countries concerned had to undertake to strengthen their defences. Fortunately this happened after most countries had generally succeeded in restoring their systems of production and clarifying their monetary and budgetary situation. Had it become necessary to embark on rearmament a year or two earlier it might easily have aggravated the budgetary problem and led to chaotic monetary and economic conditions. Even so, military requirements went a long way towards neutralizing disinflationary policies in some countries and materially increased the difficulty of achieving equilibrium.

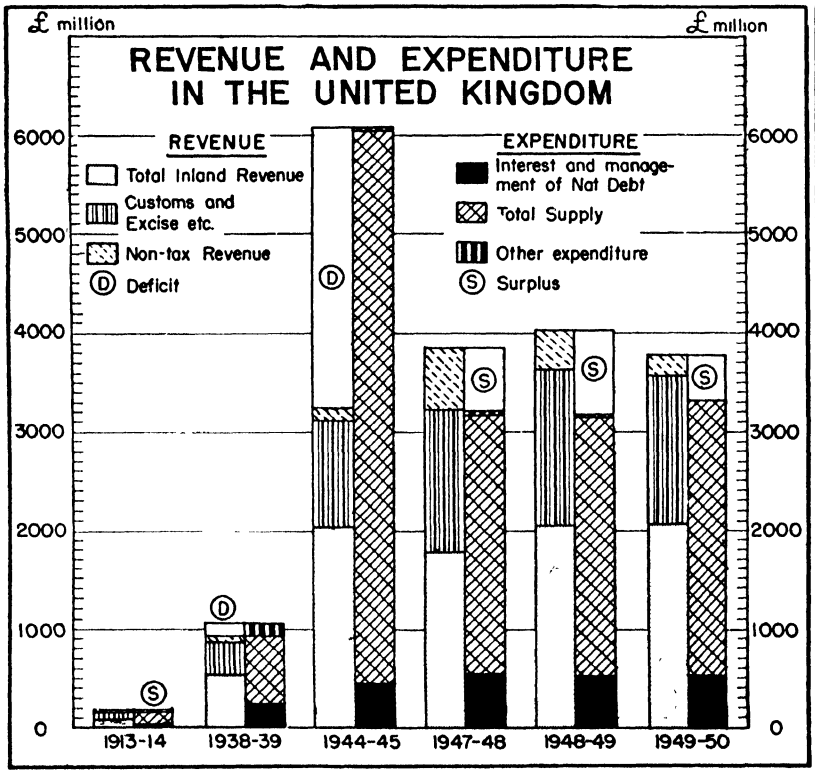
Expenditure on social services tended to rise in Great Britain, France and other countries where various postwar measures were beginning to produce their full effects by 1949. In particular the item of subsidies weighed heavily in the budgetary situation. In France they cost twice as much as other social service charges. Food subsidies adopted in Great Britain in 1940 as a temporary palliative had come in recent years to be regarded as an instrument of economic and social policy, aiming at reducing the cost of production by keeping down the cost of living. They were, too, intended to ensure that the poorest classes would be able to buy primary necessities at low prices.

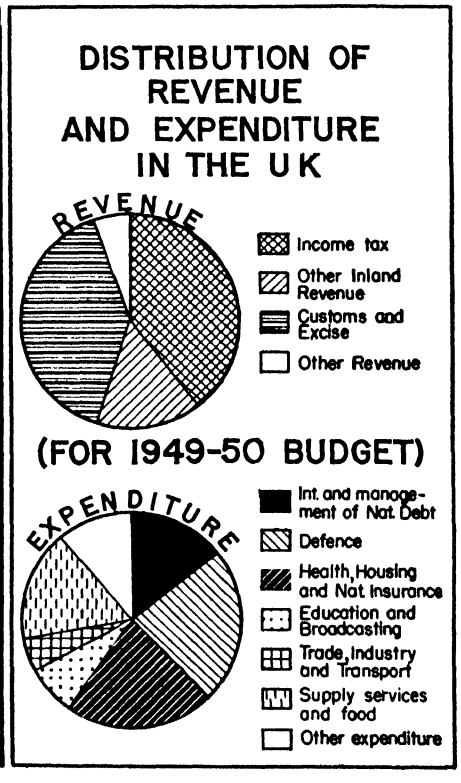
European postwar budgets thus departed considerably from the conception that budgetary policy must be a fiscal instrument with the sole aim of collecting necessary revenue for covering indispensable government expenditure. Apart from control by taxation, the new social principles that guided public expenditure also constituted powerful weapons in the armoury of economic policies. They resulted in the employment of an increased amount of public funds on social services and the devotion of a larger proportion of national resources than before World War II to capital expenditure.

Reconstruction expenditure in former belligerent countries of Europe continued to absorb substantial amounts. Progress was made everywhere, even in Germany, towards the rebuilding of houses and industrial plants destroyed during World War II. Nor was this the only form of capital expenditure calling for large resources. Most European countries were proceeding with ambitious schemes of public works, modernization of industry, improvement of transport systems and housing programmes. Although these capital expenditure items were segregated in most budgets from current expenditure, they remained none the less part of the budgetary burden.

Although such capital expenditure chiefly aimed at a rapid increase in productivity, a considerable proportion could not produce higher output except indirectly or over a long period. Some of it, however, was directed towards improvement of living conditions rather than to an increase of productivity, or pursued educational or cultural aims. In Great Britain the application of the Education act of 1944, which raised the school leaving age, necessitated substantial capital expenditure in 1949, in the form of an ambitious programme of school building.

Public administration expenditure continued on a very high level in most European countries, owing to an increase in the number of government officials compared with prewar figures. The extent to which de-rationing and de-control





NATIONAL BUDGETS (000,000's omitted)

	1946		1947		1948		1949†	
	Revenue	Expenditure	Revenue	Expenditure	Revenue	Expenditure	Revenue	Expenditure
AUSTRALIA* †(Austr. pound)	391	551	431	480	464	478	510	328
DENMARK* (kroner)	1,291	1,503	1,900	1,883	1,712	1,726	1,772	1,772
FINLAND* (marrka)	104,348	100,106	62,558	62,532	72,494†	72,445†	98,531	98,506
FRANCE (franc)	463,000	943,000	625,000	825,000	924,000	1,039,000	1,250,000	1,250,000
NETHERLANDS* (guilder)	3,142	5,368	2,599	4,391	5,842	6,990	4,004	4,299
POLAND (złoty)	35,868	39,327	228,400	207,700	325,444	325,249	612,058	612,058
PORTUGAL (escudo)	4,683	4,630	5,747	5,694	5,551†	5,549†	5,667	5,666
SOUTH AFRICA* (pound)	125	128	138	123	143	114	143	136
SWEDEN* (kronor)	3,528	3,329	3,606	3,155	4 175†	4,195†	5,015	4,426
TURKEY (Turkish pound)	895	991	1,021	1,136	1,116	1,244	1,252	1,372
U.S S.R. (rouble)	322,700	304,100	394,200†	374,100†	428,400†	368,800†	446,000	415,400
UNITED KINGDOM* (pound)	3,284	5,855	3,341	4,102	3,845	3,187	4,007	3,176

* Fiscal years 1945-46, 1946-47, 1947-48 and 1948-49. † Estimates.

made it possible to reduce their number was small. It was not until towards the end of 1949 that Great Britain embarked on an economy drive aimed mainly at reducing administrative expenditure and even this effort was modest.

In 1949 government expenditure generally was more carefully scrutinized. In Great Britain, Sir Stafford Cripps (*q.v.*) as chancellor of the exchequer introduced a more austere policy than his predecessor had followed and declared that in future no supplementary estimates should be submitted by government departments unless they arose from changes of policy. Notwithstanding this principle, he later found it necessary to yield to demands for supplementary allocations of funds through the unexpected increase in the cost of the national health service and national defence. As a result, expenditure exceeded revenue by some £20 million during the first two quarters of the fiscal 1949-50, compared with a large surplus of revenue during the corresponding period of the previous fiscal year.

In continental countries where the budget deficit was large it was difficult to enforce rigid economies precisely because of the psychological effect of the large size of the deficit. For example: if the revenue was within 5% of that of the expenditure it would be comparatively easy to overcome resistance to a final effort to bridge the narrow gap, for the nearness of the goal would strengthen the government's determination to achieve a slight reduction of expenditure or a slight increase in revenue. If, however, the gap represented 25% of the expenditure, then there was little inducement to face unpopularity for the sake of reducing it to 20%. Indeed there was a strong temptation to add to the deficit for the sake of incurring useful or popular additional expenditure. Nevertheless most continental governments made a praiseworthy effort to resist the temptation and to embark on the unpopular task of reducing expenditure although in some instances the goal of eliminating it remained remote.

The amount of the public debt continued to increase in a number of countries, as a result of budgetary deficits, capital expenditure programmes or nationalization schemes with compensation. There was no possibility in any country of saving much expenditure on interest through conversion operations. In fact interest rates tended to increase. In countries where devaluation of the national currency was followed by an all-round upward adjustment of taxable capacity, the relative real burden of the public debt declined in spite of an increase in its nominal amount. It was for this reason that devaluation on the continent tended to facilitate the solution of budgetary problems, by reducing the proportion of revenue that had to be earmarked for the service of the public debt. Although as the immediate result of currency depreciations budgetary difficulties were aggravated through the more rapid increase of public expenditure, during a long spell of monetary stability, which followed depreciation, the increase of revenue was able to catch up and exceed the increase of expenditure. Hence in 1949 came the improvement of the budgetary situations in various European countries which had devalued their currencies during previous years.

The budgetary problem remained one of the causes of political instability in France where the peculiar character of the balance of power between the political parties made it particularly difficult for any government to adopt unpopular cuts of expenditure or to increase revenue. The effort of the government of Georges Bidault to balance the budget for 1950 through the adoption of new taxes in Dec. 1949 nearly caused a cabinet crisis.

The " dollar crisis " that developed during the summer of 1949 made it necessary for Great Britain and other countries suffering from a scarcity of dollars to make an additional effort to cut expenditure. Realization of the need for this constituted a departure from the postwar conception under which it was believed that, as a result of practically watertight exchange control and other restrictions, a country was in a position to isolate its internal economy from international influences. Under this conception it was considered possible to distribute purchasing power through high public expenditure without thereby causing a deterioration of the balance of payment through smaller exports and far larger imports. The experience of 1949 made many governments realize, however, the existence of the close connection between budgetary policy and trade balance. The postwar conception of " spending our way into prosperity " and letting the balance of payments take care of itself gave way to more prudent conceptions even though the extent to which the latter were actually put into operation varied from country to country.

The devaluation of the pound and other currencies in September was effected too late to produce any visible effects on the budgetary situation during the calendar year 1949. In Great Britain the government endeavoured to reduce to a minimum the effect on public expenditure. Indeed efforts were made to carry out cuts in spite of the natural rising trend of expenditure that, in the experience of France, Italy and other continental countries, accompanied devaluation.

The moderate extent to which devaluation in Great Britain was followed by a rise in prices contrasted sharply with earlier continental experience. The difference was due to the fact that, although continental countries had been forced to devalue repeatedly by rising prices caused by their budgetary deficits, the British budget was balanced at the time of the devaluation of sterling. Several continental countries were in a less favourable position in this respect. Nevertheless, by 1949 their budgets were more under control than on the occasion of previous devaluations and such deficits as persisted were not of an extent to cause non-stop inflation. For this reason, even on the continent the devaluation of national currencies did not set into motion on this occasion a vicious spiral in which an uncontrolled rise in prices caused a widening of the budgetary deficit.



Entitled "But this little piggy gets none" this cartoon by Illingworth was published in the "Daily Mail" (London) in Feb. 1949, at the time of the government's supplementary estimates.

A favourable change in the budgetary sphere on the continent during 1949 was the reduction of the formerly very wide discrepancies between budgetary estimates and actual results. During earlier postwar years many governments yielded to the temptation of producing unduly optimistic budgets; and the result was that, although on paper the deficit was eliminated or reduced, in reality expenditure exceeded estimates while revenue fell short of estimates. In 1949 the French government and other governments mustered up sufficient political courage to face realities in their budgetary estimates.

Most countries of the Commonwealth succeeded in achieving budgetary equilibrium in 1949; or at least their deficits were not of a nature to cause inflation. The new dominions, India, Pakistan and Ceylon, had to continue to contend with budgetary problems arising from the recent change in their political status and from the lack of trained civil servants. (P. EG.)

United States. The U.S. budget submitted to the congress by President Truman on Jan. 9, 1950, recommended expenditures of $42,439 million for the fiscal year ending June 30, 1951. This total was $858 million less than estimated expenditures for 1949-50. Revenues amounting to $37,306 million were expected for 1950-51, $457 million less than in the previous year. Expenditures and revenues for the fiscal year 1951 as presented in the budget would result in a deficit of $5,133 million compared with an anticipated deficit of $5,534 million for fiscal 1950.

Expenditures for national defence, international affairs and finance, veterans' services and benefits and interest on the public debt were estimated at a total of about $30,000 million, or 71% of the total budget. This represented a reduction of about $1,800 million from the estimated total outlay for these four categories in fiscal year 1950.

The federal government's two largest sources of revenue—income taxes on individuals and on corporations—were expected under existing law to provide revenues of $28,704 million in 1950-51, comprising three-fourths of the estimated total of all budget receipts. Individual income taxes were estimated at $18,246 million, as compared with $17,971 million in the preceding year.

The estimate of $13,545 million presented for outlays on national defence comprised one-third of all federal budget expenditures. This was about $400 million higher than national defence expenditures in 1949-50. The largest increase was for outlay on aircraft.

Expenditure on international activities was placed at $4,711 million in the 1950-51 budget. This was about $1,300 million less than estimated expenditure in 1949-50. The reduction reflected chiefly the declining costs of the European Recovery, and other recovery and relief programmes. The president noted that recovery and relief costs, which in 1950-51 estimates formed three-fourths of international expenditures, would diminish rapidly, but that programmes for stimulating foreign economic development would assume increased importance and that expenditures for foreign military assistance would remain substantial for several years. The budget included, as proposed legislation, an initial outlay of $25 million for furnishing technical assistance to economically undeveloped areas (the Point Four programme). Expenditures under the Mutual Defence Assistance pact of 1949 for supplying arms to the North Atlantic treaty nations and for rendering military assistance to Greece, Turkey and certain other areas in the middle and far east were estimated to require $645 million in 1950-51.

BUENOS AIRES. Capital of the republic of Argentina, the largest city in the southern hemisphere and of Latin America, and the largest Spanish-speaking city of the world. Area (federal district): 71 sq. mi.; pop.: (1914 census) 1,576,597, (1947 census) 3,000,371.

Beneath the appearance of extreme prosperity, the effects of inflation were increasingly felt. Workers demanded higher wages, which in most cases were granted in accordance with government policy. Among several mass manifestations of discontent, the most spectacular was the strike of printers which deprived Buenos Aires of newspapers for 17 days during February. The official ceiling prices for cooking oil, soap, milk and sugar were raised, and the government's subsidy of meat for the capital was cancelled. The continued freezing of rents encouraged landlords to demolish old properties and construct new blocks of flats, whose rents were not subject to the same restrictions. The influx of workers from the agricultural districts into the capital did not diminish. The radio stations and nearly all the newspapers of Buenos Aires were by 1949 under the control of Señora Eva Perón, wife of the president; but the wealthy, privately owned *La Prensa* remained independent in its opinions. The port of Buenos Aires welcomed the arrival of Argentina's new liner, the "Presidente Perón" (14,000 tons) constructed at Barrow-in-Furness.

Although 1949 was a year of economic disturbance and political rumours, the *Porteños* (citizens of Buenos Aires) were aware that the natural wealth of their country was unaffected by the transient crisis, and were confident that the fertile hinterland of the republic could well sustain the capital's extravagances. (G. P.)

BUILDING AND CONSTRUCTION INDUSTRY. The principal subjects under discussion during 1949 in the building industry of Great Britain were the introduction of schemes of incentive payments and the continuation of the system of licences.

Operatives' output which was considerably below the 1939 level was one of the chief causes of the rising cost of building and it was suggested that it could only be raised by incentive payments. The wage arbitration of 1947 gave half the additional sixpence an hour that had been claimed but included provision for incentive schemes in order to allow the earning of wages above the basic rates. Employers were slow to operate such schemes on an extensive scale in spite of official encouragement from the National Federation of Building Trades Employers and the Ministry of Works, both of which published booklets giving guidance on their running. Some progress, however, was made in 1949 though

there were many kinds of work which did not lend themselves to organization in this way. Trade union leaders complained that far too few men were being given the chance to supplement their wages and that basic wages must be raised if employers were not prepared to operate bonus schemes more widely.

Official control of the licensing of work and of the supply of certain materials was continued throughout 1949 though there had been considerable relaxation of these controls in Nov. 1948. The changes did not affect housing work or the supply of steel or timber and builders complained that such hand-to-mouth procedures made it impossible to balance future programmes of work satisfactorily and thus increased operating costs.

The volume of maintenance and repair work which needed to be undertaken in consequence of the neglect of property during World War II resulted in a considerable increase after the war in the number of very small firms, a category already over-large. This trend seemed to be arrested during 1949 partly because of financial difficulties. On the other hand the size of certain larger units was increased by the amalgamation of firms. The working party set up by the Ministry of Works in 1948 to enquire into the operation of the building industry continued to take evidence from a wide variety of sources. A productivity team also visited the United States for six weeks during July and August to study building methods. Although representing a variety of interests the members of the team agreed that production per man-hour in the United States was half as great again as in Great Britain though opinions differed as to the extent to which this was due to higher wages, better diet, the spur of unemployment, or to there being no shortages to upset planning and cause frustration.

Both the Ministry of Works and the Building Research station issued publications on the progress of research and on the development of constructional techniques which were well received in responsible quarters. But although there was appreciation of the quality and value of the work being done, distrust of experiments in new structural techniques was also widely expressed and a return to traditional methods of house building advocated. The fact, however, that this suggestion was frequently associated with the demand for the removal of restrictions on the speculative building of houses for sale caused the motives behind it to be questioned, the more so since it was admitted that the new techniques were essential if the school building programme was to be adequate.

Owing to the shortage of steel and timber reinforced concrete construction was used a great deal for large buildings in place of structural steelwork and new British Standards and Codes of Practice permitted more economy in both techniques. An outstanding result of the steel shortage was the widespread interest in design and construction of prestressed concrete structures. During 1949 both bridges and buildings were completed using this method of construction and small section floor joists were being mass produced to take the place of timber. Hardwood was freed from control in April but supplies of softwood were further threatened by import cuts and devaluation. The Timber Development association suggested that it would be sound economy to export more steel and import more timber but there was no indication that official policy was influenced.

Recruitment to the building industry caused some anxiety, the intake of apprentices to the skilled trades being less than that required to maintain its strength. Many reasons were advanced for the deficiency. Employers complained that there was insufficient licensing of work suitable for the training of apprentices and that the outlook was too unstable for them to be able to bind themselves as parties to a five-year apprenticeship. On the other side it was stated that a building trade apprenticeship compared unfavourably both financially and socially with other occupations open to youths of 15 or 16 years of age. A leading employer emphasized that adequate recruitment was essential to the future health of the industry and asked whether a five-year apprenticeship was necessary for all the building trades. There was, at the same time, a growing interest in schemes for training future executives and for attracting university men to the industry.

After 1939 few outstanding buildings had been put up in London and it was, therefore, something of an occasion when work commenced on the new concert hall on the south bank of the Thames in preparation for the Festival of Britain, 1951.

(D. A. G. R.)

United States. Total expenditures for new construction in the United States during 1949 reached a new record of $19,329 million which exceeded by more than $500 million the 1948 record of $18,775 million. Building of new homes passed the million mark for the first time in the nation's history. The physical volume of new construction in 1949 was probably even greater than the $500 million increase in expenditure would indicate since unit costs were somewhat lower than in the previous year.

That new building reached record levels in 1949 was due to a $1,000 million increase in public construction of all types by federal, state and local governments. Private construction amounted to $14,000 million which was $500 million lower than in the preceding year. The drop was more than offset by the increase in public building to $5,300 million which was 25% more than had been expended during the previous year. More than half of this increase resulted from expanded programmes of school and hospital construction.

Although 1949 home building achieved a record in number of new units, total expenditure amounted to $7,000 million, approximately 3% below the 1948 figure. This fact was accounted for by somewhat lower construction costs, the building of a larger proportion of less expensive dwellings and work remaining to be completed at the end of the year on the large volume of home building which was started late. Expenditures for public housing (homes for families with small incomes, financed and subsidized by federal, state or local government agencies) more than doubled in the year although the volume of such construction was still relatively small. The large scale public housing programme authorized by the Housing act of 1949 did not begin to make itself felt.

Increased construction was also marked in the field of institutional buildings such as churches, privately supported hospitals, recreational buildings and private (including parochial) schools. Privately owned electric and gas companies also substantially increased their construction activities.

Material costs had begun to drop in Nov. 1948 and continued to ease downward through the first half of 1949. Actual price reductions for major components, except lumber, were modest. Lumber, which had shown the biggest postwar increase, was freely available at substantially lower prices. In the Bureau of Labour Statistics index of wholesale prices, lumber, which in Aug. 1948 reached a peak of 319·9 (1926=100), had dropped to 277·4 by July 1949, but then moved up to 279·6 in September.

Equally as important as price reductions for materials were the return of competitive bidding for construction contracts on a fixed price basis, an ample supply and ready flow of materials which made for more efficient and speedier construction and increased labour productivity with fewer premium payments above the union wage scale.

In May 1949 construction contractors had 2,010,000 employees at work which represented a gain of 75,000 over the preceding month but was still 42,000 under the figure for

May 1948. By December, however, employment was 2,109,000—the highest level for that month in the 10 years for which Bureau of Labour Statistics records were available.

Although building and construction ended 1949 on a far stronger note that it did the preceding year, forecasts for 1950 were still on the cautious side. The joint estimate of the Department of Commerce and the Department of Labour's Bureau of Labour Statistics foresaw another year ahead in which $19,000 million would be spent on construction but with expenditure on private building $925 million less than in 1949 and a further increase in public construction to make up the difference. Private home building and most other types of private construction were expected to slacken. Employment, it was thought, would equal 1949 levels and there would be no substantial change in construction costs. (*See* also HOUSING.) (H. M. P.)

BULGARIA. A people's republic in the eastern part of the Balkan peninsula, bounded on the north by Rumania, on the west by Yugoslavia, on the south by Greece and on the east by Turkey and the Black sea. Area (including southern Dobruja): 42,796 sq. mi. Pop. (Dec. 31, 1946, census): 7,022,206 of whom 1,662,255 were urban and the remainder rural. Languages (1947 est.): Bulgarian 88%, Turkish, 9·8%. Religions (1947 est.): Greek Orthodox 84%, Moslem 11·5% (one-sixth of them being Pomaks, or Moslem Bulgars, the remainder being Turks); Roman Catholic 0·9%; Gregorian Armenian 0·4%; Jewish 0·3%; Protestant 0·2%. Chief towns (pop., 1947 est.): Sofia (cap., 434,888); Plovdiv (125,440); Varna (77,792); Russe (53,420). Chairman of the presidium of the National Assembly (*Sobranye*), Dr. Mincho Neychev; prime ministers in 1949, Gheorghi Dimitrov (*see* OBITUARIES) and (from July 20) Vasil Kolarov (*q.v.*); minister of foreign affairs (from Aug. 6), Vladimir Poptomov.

History. There was no significant change in the political structure of Bulgaria, which had been politically sovietized already in 1948. In Feb. 1949 it was announced that two small parties belonging to the governmental Fatherland (Otechestven) front, Zveno and the Radicals, had decided to dissolve themselves and to merge into the front. Zveno was originally a moderate republican party, based on the middle class and appealing especially to army reserve officers, which had taken part in the 1944 revolution but had lost its most active members by purges in 1946-48. The Radical party, founded at the beginning of the century, was a weak middle-class party. With their disappearance, the Fatherland front consisted only of Communists and rump Agrarians, the latter having in fact no independent influence. But in practice the front had been rigidly controlled by Communists ever since the summer of 1945.

In July the leader of the Communist party, Gheorghi Dimitrov, died in the Soviet Union. Having lain in state in Moscow, his corpse was brought back to Sofia, where a state funeral was staged, closely modelled on that of Lenin. Like Lenin, Dimitrov's corpse was to be embalmed and placed on view in Sofia. As in the case of Lenin, Dimitrov's successor as party leader, his brother-in-law Vlko Chervenkov, made an oration over his body consisting of a series of "commandments" and "oaths," exactly copied from the oration of Stalin over Lenin's body in 1924 and imitating even the litanical style of the ex-seminarist.

The new prime minister was Vasil Kolarov, like Dimitrov a former secretary of the Comintern. Under him were five deputy prime ministers forming, as in the government of the U.S.S.R., an inner cabinet. The five men chosen were



The body of Gheorghi Dimitrov, who died on July 2, 1949, at the temporary mausoleum in Sofia where he was buried on July 10. Above is Marshal Klimenti Voroshilov (in uniform). The mausoleum was opened to the public on Dec. 10.

Chervenkov himself, Dobri Tarpeshev, Anton Yugov (all three Communists), Gheorghi Traikov (rump Agrarian) and Kimon Gheorghiev (former Zveno). Chervenkov, most of whose political life had been spent in exile in Moscow, was the most powerful man in the country. The new minister of foreign affairs, Vladimir Poptomov, was also a "Muscovite." Yugov and Tarpeshev on the other hand had spent their time either in prisons or in underground activity in Bulgaria.

The biggest political event of 1949 in Bulgaria was the "unmasking" of Traicho Kostov (*q.v.*), second secretary of the Communist party under Dimitrov. On March 26-27 a special session of the party's central committee decided to remove him from the Politburo. His crime was an "insincere attitude" to the Soviet Union, and "insincerity in self-criticism" after his error had been pointed out to him by his comrades. As one of the chief organizers of the Bulgarian economic plan, he had applied the existing rules about commercial and industrial secrets to Soviet citizens as to the citizens of other foreign states. By so doing he had proved guilty, in the words of Dimitrov, of "the shameful assumption" that the state interests of the Soviet Union could ever be contrary to those of Bulgaria. Kostov was later expelled from the party itself and in July his parliamentary immunity was cancelled and he was arrested. On Nov. 29 it was announced that he would be tried for conspiracy, espionage and high treason. The Yugoslav Communist leader Moshe Pijade grimly commented on this that Kostov had evidently required a great deal of "preparation" and rehearsal in the role he was to play at the trial.

"Kostovism" proved a useful label for economic failures. In the Five-Year plan which began in 1949, Bulgaria was to convert 60% of agricultural output to collective ownership. In practice it seemed that party officials pressed too fast ahead with collectivization. In June a party statement denounced "left-wing sectarianism" in agriculture, and attributed the wrongful use of force against peasants to the influence of the disgraced Kostov. In October the ministers of finance and railways, Petko Kunin and Stefan Tonchev, were dismissed. Throughout the year there were complaints of low productivity and swift changes of employment among the workers.

A new Church law was introduced on Feb. 24. Under article 12 of this law, any minister or religious officer who "offends against public order or morality" or "works against the democratic institutions of the state" might be temporarily suspended or dismissed from his office by the Ministry of Foreign Affairs. In this case, the minister of foreign affairs would inform the leaders of the religious community concerned. If they did not take action against the guilty person, he would be "suspended by administrative order." These phrases were of course capable of wide interpretation by the Bulgarian secret police and Communist party officials, whose views the minister of foreign affairs was certain to carry out.

From Feb. 25 to March 6, 15 Bulgarian Protestant pastors were tried for espionage and subversive activities against the government in the interest of the "western imperialists." It was clear from the proceedings of the trial that the crime of these men was that they had had American or British friends, with whom they had spoken freely and critically of Bulgarian politics. Protestantism had few followers in Bulgaria, but as one of the communities which had long established connections with the Anglo-Saxon world, it was an inevitable target of official repression. (H. S.-W.)

Education. (1947-48) Elementary schools 9,238, pupils 889,854, teachers 28,957; secondary schools 258, pupils 152,661, teachers 5,229; technical schools 207, pupils 32,968, teachers 1,051; universities and colleges 9, students 49,800, professors and lecturers 1,283.

Agriculture. Main crops (1948, in '000 metric tons) wheat 1,470; maize 890; barley 250; oats 105; tobacco 68. Livestock (in '000 head): cattle (July 1947) 1,711; sheep (Dec. 1947) 9,000; pigs (July 1947) 1,028; horses (Dec. 1946) 549; poultry (Sept. 1947) 10,293.

Industry. Fuel and power: lignite (1947, in '000 metric tons) 4,044; electricity (1948, in million kwh) 553.

Foreign Trade. (1947, in million leva) Imports 21,420; exports 24,530. Main imports: metal and metal products, machinery, textiles, rolling stock and vehicles. Main exports: tobacco, wines and attar.

Transport and Communications. Roads (1945) 13,870 mi. Licensed motor vehicles (Dec. 1948): cars 4,350, commercial vehicles 4,230. Railways: (1946) 2,072 mi.; passengers carried (1946) 34 million; goods traffic (1948) 10 million tons. Telephones (1948) 54,300.

Finance and Banking. (In million leva) (Budget 1949 est.): revenue 151,980; expenditure 151,980. National debt (June 1942) 33,708. Currency circulation (March 1947) 35,000. Monetary unit: *lev* (pl. *leva*) with an exchange rate (Dec. 1949; in brackets Dec. 1948) of 806 (1,160) leva to the pound.

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BUNCHE, RALPH JOHNSON, United Nations official (b. Detroit, Aug. 7, 1904), graduated from the University of California, Los Angeles, California in 1927 and received a master's degree at Harvard university in 1928 and a Ph.D. in 1934. He taught political science at Howard university, Washington, D.C., becoming a full professor in 1938. In the meantime, he travelled through French West Africa on a Rosenwald field fellowship, studying and comparing the administrations of French Togoland, a mandated territory, and Dahomey, a colony. He was later awarded a post-doctoral fellowship from the Social Science Research council and studied at Northwestern university, Evanston, Illinois, and the London School of Economics in 1936 and 1937 before returning to Africa for further studies of colonial policy. During World War II he served in the Office of Strategic Services, being the head of its Africa section, 1943-44, and in the Department of State from 1944. He joined the United Nations secretariat as director of the division of trusteeship in June 1946. In 1948 he was appointed to assist Count Folke Bernadotte of Sweden as mediator between the Arabs and Jews in Palestine and when Bernadotte was assassinated on Sept. 17, 1948, he became acting mediator and supervised the truce and armistic agreements. In May 1949 he rejected an offer for an appointment as U.S. assistant secretary of state for near east and African affairs. In August Bunche was relieved of his mission as acting mediator for Palestine to resume his post as director of the U.N. division of trusteeship.



Dr. Ralph J. Bunche receiving the Spingarn medal from Mrs. Vijayalakshmi Pandit, Indian ambassador to the United States, on July 17, 1949, for his work as U.N. acting mediator in Palestine.

In July 1949 he was awarded the Spingarn medal, awarded annually by the National Association for the Advancement of Coloured People, and in October received the degree of doctor of humane letters from the Jewish Theological seminary.

BURMA, UNION OF. An independent federal republic lying on the eastern side of the Bay of Bengal, between Pakistan and India on the northwest, Tibet on the north and China, Indo-China and Thailand (Siam) on the east. The republic comprises Burma proper, the Shan state, the Kachin state, the Chin special division and the Karen state[1])—this last to include, as well as the hill Karens, the Karens of the plains, who had yet to resolve their internal differences. Area: 261,749 sq. mi.; pop. (1941 census): 16,823,798. Racially, the peoples of Burma are Mongoloid. About 90% are Buddhist by religion, and about 70% use the Burmese language. The largest indigenous minorities were: the Karens who numbered 1,367,673 in 1931 (of whom 218,790 were Christians), the Shans (1,057,406 in 1931) and the Chin-Kachin group (*c.* 750,000). The largest immigrant minorities were: the Indian population numbering 1,017,825 in 1931, divided equally between Moslems and Hindus, and the Chinese who by 1941 were about 380,000. Chief towns: Rangoon, capital and main port (pop. 1941, 501,291); Mandalay (pop. 1941, 163,537); Moulmein (pop. 1931, 65,506); Bassein (pop. 1941, *c.* 50,000) and Akyab (pop. 1931, 38,094). President of the republic: Sao Shwe Thaik (*q.v.*); prime minister: Thakin Nu (*q.v.*); minister of foreign affairs: U Maung.

History. The year 1949 opened disastrously for Burma. As 1948 drew to a close, all hope of early recovery dwindled away. Negotiations with the Karens broke down and Karen bands overran more and more areas, even to Insein, at the very gates of Rangoon. The "White Band" section of the People's Volunteer organization (P.Y.A. in Burmese) continued to defy the government, despite the efforts of a peace mission under U Thwin; and Communist hostility remained as implacable as ever. Essential goods fell into short supply, and prices rose steeply. Timber, rubber and mineral production was interrupted, with great loss to the national income and the state revenue. The budget for 1948-49, introduced in Sept. 1948, was already falsified by Jan. 1949.

The government, however, still had some degree of control. The administration, though damaged, was substantially intact; communications, though often cut, were generally open; in particular, the Rangoon-Mandalay railway ran regularly from mid-December. The 1948 rice crop was successfully garnered.

At this stage, the government made a serious miscalculation. An attempt to disarm the Karens was resisted, and sent the 3rd Karen Rifles at Prome into revolt. On Jan. 31 an attack launched on the Karens at Insein was repulsed, and settled down to a long siege, with much destruction of property. A rifle attack on the same day against the Karen settlement in west Rangoon caused much damage by fire, and some loss of life. The rift between the two communities was almost complete.

The Karens now took the offensive. By April they controlled the railway area from north of Pegu to Mandalay and Maymyo, and westwards to Myingyan on the Irrawaddy. South of Rangoon, they held Thaton, dominated Moulmein and threatened Tavoy and Mergui. Karen and government control alternated in Bassein and some other delta areas, and Karens held the Twante canal.

Other insurgent forces were in the field. White P.Y.A. held Dala (opposite Rangoon), Pegu, and some delta towns. Allied in an uneasy Democratic front with the Communists, they also controlled most of the riverine districts from Prome to just south of Magwe. They were strong enough to threaten Tavoy in the south. Communists held Pyapon and some other delta towns and had centres in many other areas. Arakan was almost completely out of control.

In fact, the government's writ ran only in Rangoon, a few headquarter towns and in the backward areas comprising the Shan states and the northern districts, where control was at all times of the lightest. Communications were completely disrupted and the administration was thoroughly disorganized. Timber extraction ceased and reconstruction in the Yenangyaung oilfield ended. This point marked the peak of the rebels' success. With the rains in the offing, their men began to melt away to their homes; and by June the government had re-occupied Meiktila, Mandalay, Maymyo, Yenangyaung and Kyaukse in upper Burma, and Moulmein, Thaton, Insein and Twante in lower Burma. Twante was important. Its recapture released large rice supplies and a total export for 1949 of 1,300,000 metric tons was in sight.

Thus, by the middle of the rains, the government faction was still the strongest in the field, except in Arakan, the Toungoo-Karenni area and parts of the southern Shan states, where the Karens made an incursion and firmly held Taunggyi. The country, however, was exhausted, devastated and terrorized by rival gangs and was in no mood to hold elections or plant wide areas for next year's export market. The district administration, of fundamental importance in Burma, was broken in pieces, and the treasury was bankrupt. The outlook for 1949-50 was thus ominous.

In the political field, 12 months had seen a great change. On Sept. 14, 1948, the cabinet was increased to 21 members, as a bid, doubtless, for wider support. This, however, was not forthcoming, and splinter groups and new parties began to form. The Anti-Fascist People's Freedom league began to disintegrate rapidly, and soon the Socialists were left as the dominant party. In the country, however, they were unpopular and Thakin Nu, as the one man who could steer a middle course, was indispensible to all parties as premier. Early in the new year he was able to force the resignation of the Socialist ministers; the cabinet was cut down to 12 and most of the seats were filled with non-Socialist supporters of government. The Socialists, however, still controlled the Assembly, and so could cause the government much embarrassment. No election had been held after the declaration of independence, and existing conditions scarcely permitted the holding of one.

These events and the Communist success in China turned the thoughts of Burma increasingly towards the west. India called an informal conference in February at Delhi of Pakistan, Ceylon, Australia and the United Kingdom to suggest mediation in Burma, but this was precipitate and mediation was rejected. Desultory discussions, however, between Burma and the Commonwealth continued but led to no definite result. Discussions with the United States and the international monetary authorities were equally inconclusive.

The rains damped down military operations and so revived discussions of ways to procure a settlement. After some consideration, the government in mid-September launched a "peace in one year" campaign. They rightly thought that civil war *à outrance* would cause irreparable damage and seemed ready to consider all means of reaching a peaceful settlement. In this, a major factor would be an agreement with the Karens. As the rains drew to a close, signs of increasing rebel activity gave point to the necessity for early action. The need for more regular troops, and the disarming of undisciplined units with no reliable allegiance, already obvious, became imperative.

The widespread disorders further impaired the country's finances, already precarious. The first accounts figures for

[1] The Karen state had not been set up by the end of 1949 The old Karenni states, however, were understood to have adhered to the union.

1948-49 showed a deficit of Rs. 74 million and even this figure was of doubtful validity. The budget for 1949-50 envisaged a deficit of Rs. 17 million but this was based on an unrealistic revenue figure, and included transfers from the development fund, which were not revenue at all A new factor was the government's new economic policy. This divided industry into three groups: (a) national industries, (b) private enterprise industries to be nationalized later and (c) industries open to private enterprise without restriction. It was too early to say if this would attract much-needed foreign capital. As, however, there was no provision for paying for industries already nationalized, the outlook in this respect was not hopeful. (R. M. MACD.)

Education (1945-46) Schools: state and recognized 2,781, pupils 229,300; private 2,153, pupils 70,180. University (Rangoon, 1948) students 2,742.

Agriculture. Main crops ('000 metric tons, 1948) rice 5,287, groundnuts 142; cottonseed 14; sesame (1947) 43 6, cotton 3; tobacco (1945-46) 32·7. Livestock ('000 head, 1948)· cattle 5,207; sheep 21; pigs 402; oxen 5.207; buffaloes 721, horses 12, hogs 394, goats 172 Fisheries: total catch estimated at 500 000 tons annually

Industry. (1947) Factories 473, persons employed 46,480 Raw materials (metric tons, 1948): natural rubber (net exports) 9,204, timber, teak round log (target production 1948-49) 230,000, tin concentrates 1,181; lead on smelter basis 7,568; zinc ore 5,586; silver (fine ounces) 450,000.

Foreign Trade. Imports· (1948) Rs 797 million, (1949, six months) Rs.155 million; exports (1948)· Rs 593 million, (1949, six months) Rs 294 million.

Transport and Communications. Roads (1949) 12,472 mi Licensed motor vehicles (Dec. 1948)· cars 10,706, commercial vehicles 19,399. Railways (Aug. 1948). 1,786 mi ; passenger-mi. (1946-47) 205 million, net ton freight-mi 298 million

Finance and Banking. Budget (in '000 rupees)· (1947-48 est) revenue 674,190, expenditure 723,711; (1948-49 est.) revenue 520,784,expenditure 621,698. External debt (Sept. 30, 1949). Rs 867 million Note issue (Dec. 1948) Rs. 400 million. Monetary unit *rupee* with an exchange rate of Rs.13·37 to the pound

BUSINESS REVIEW. During 1949 business conditions continued to be affected by the deferred effects of wartime abnormalities. Generally speaking, however, business activity was determined to an increasing extent by peacetime factors. This did not necessarily mean that conditions improved in the same proportion as wartime abnormalities gave way to influences of peacetime economy. For the latter, too, was far from normal. The two principal disturbing factors were the trade recession in the United States during the first half of the year and the devaluation of sterling and a number of other currencies in Sept. 1949. Although it was possible to regard both factors as originating indirectly from the aftermath of World War II, in reality they were due to disequilibria which form part of peacetime economy.

The factors which dominated business conditions during previous postwar years were the scarcity of goods, a disability inherited from the war, and the inadequacy of the productive capacity of the European late-belligerent countries. During 1949 both these factors continued to subside. Industries rebuilt their stocks of raw materials, except in goods imported from hard currency countries. Wholesale and retail merchants, whose stocks were nearly exhausted by the end of the war, had replenished their supplies. Indeed in many instances they came to carry rather more than they wanted to, owing to a fall in demand in many lines. The range of goods available to the consumer widened considerably during 1949. This was not an entirely healthy symptom, however, as it was the result of the partial failure of the attempt by various governments to reserve for foreign markets the best of the national output. The impossibility of selling all such goods abroad compelled the governments concerned to release them for sale on the domestic markets and these "frustrated exports" added to the domestic consumers' freedom of choice.

Industrial production continued to increase in Europe and also in the countries of the Commonwealth, with the exception of Canada where it declined during the first half of 1949 in sympathy with the trend in the United States. Among European countries, those which had been affected most by World War II showed the greatest recoveries. In particular the index of the industrial production of western Germany showed a gratifying progress towards prewar level. The manufacture output of Great Britain and most western European countries had long passed that mark and in 1949 they showed further noteworthy gains. British dominions which during the war made considerable progress towards industrialization succeeded in consolidating their advance and even added to it.

With the disappearance of the sellers' market in most kinds of consumers' goods, the possibility of difficulties through industrial overproduction was continually being considered by governments and business firms. The difficulty of exchanging the manufacture surpluses of western Europe for the food and raw material surpluses of eastern Europe became more evident as a result of the spectacular recovery of industrial production in Western Germany; but fears that a revival of German competition might lead to unemployment or a fall in wages in Great Britain and the industrial countries did not yet materialize.

The setback in business in the United States affected Europe and the Commonwealth partly through a decline in American prices of raw materials and manufactures and partly through a decline in American imports. Since, notwithstanding the European Recovery programme, the dollar reserve of most countries remained uncomfortably low, this decline of dollar-earning exports of European manufactures and of Commonwealth raw materials considerably aggravated the situation. Moreover, as there was no decline in the prices of European industrial products, the cuts in American manufacture prices threatened the markets for British and western European exports in Latin America and elsewhere. So far from trying to compete with lower American prices, the prices in most European countries continued to increase during the second half of 1948 and showed no material fall during the first three quarters of 1949. Even though the British government and other governments adopted disinflationary devices they were unable to arrest altogether the rise in wages and prices. In France the devaluation of the franc in 1948 produced its full effect on prices by the end of that year, and the reaction during the first half of 1949 was moderate. Even in Italy, which was the only European country to adopt deflation on orthodox lines, prices continued to rise at the beginning of 1949, although subsequently they showed a marked decline accompanied by unemployment on a fairly large scale. In Belgium, too, there was a fair amount of industrial unemployment.

On the other hand, Great Britain and most other western European countries continued to pursue their policies of full employment and, as a result, the purchasing power of consumers was fully maintained.

The devaluation of sterling and many other European and Commonwealth currencies towards the end of the third quarter of 1949 constituted an important landmark in the business history of the year and, indeed, of the postwar period. Anticipation of this step during the preceding months influenced business conditions to no slight extent. There was a decline in the demand for British and sterling area goods, in the hope of being able to buy them cheaper after devaluation. When on Sept. 18 sterling was devalued by 30%, an example followed by the entire sterling area (with the exception of Pakistan) and by many other countries besides, the fear of large-scale deflation was removed. Previously there had been the possibility that the declining trend in the United States

might force Great Britain and other countries sooner or later to follow the American example. There was, indeed, a growing fear of a postwar slump during the second quarter of 1949. From the point of view of business activity the British decision to take the line of least resistance by devaluing instead of deflating was greeted with relief, all the more so since the rigidity of wages under full employment would have made deflation impossible beyond a certain point. Moreover, the substantial extent of the cut in the dollar value of the pound and other currencies provided the countries concerned with a fairly wide safety margin. They were placed in a position to allow their wages and prices to rise a little without thereby relapsing into the state of disequilibrium from which they had escaped through devaluation. This meant that they were able to meet the most insistent wages demands instead of provoking an epidemic of strikes by rigidly resisting them.

During 1949 business activity in Great Britain, France, Italy, Australia and other countries was often disturbed by strikes over wages or working conditions. A large proportion of these disputes were believed to have been engineered by Communists for political purposes by stimulating and exploiting discontent among dock labourers, miners and other workers. The extent of these strikes was not such as to check progress towards industrial reconstruction. On balance, business conditions continued to improve, a fact which was largely due to the ability of western European countries to maintain their essential imports through the European Recovery programme.

In eastern European countries the process of postwar consolidation continued. The currency reforms carried out in various eastern European countries during the previous two years consolidated monetary conditions and the non-stop inflation in Hungary and Rumania gave way to a period of comparative stability. The effect of the nationalization of most industries on the output in countries under the Soviet sphere of influence could not be judged clearly from the conflicting reports received. Most of their business activities were conducted by government organizations.

In western Europe the setback in business profits recorded in 1948 continued in 1949, although in many lines the post-war boom continued unabated. There were signs of greater selectivity, owing to the disappearance of the virtual certainty that prevailed during earlier postwar years that it was possible to sell at a profit anything produced, regardless of cost or quality. With the increase of competition at home and abroad the industries concerned had to make an effort to cut down superfluous expenditure. The strong political and economic position occupied by labour, especially in Great Britain and France, made this process often very difficult, for dismissals for redundancy might be accompanied by strikes. In particular in the nationalized industries the closing down of uneconomical pits or works encountered strong resistance. Nevertheless it was impossible to avoid local and temporary unemployment in some industries such as shipbuilding; but many industries engaged in the production of heavy capital equipment continued to work to capacity and remained fully booked for years ahead. Demand for electric power stations and for new machine tools continued unabated both within the countries producing such equipment—Great Britain, Belgium, western Germany, France, Italy and Sweden—and elsewhere.

Mechanization and modernization continued to make progress but were handicapped by lack of exchange to import the necessary equipment or by the need for exporting much of the equipment produced within the countries, in order to obtain the means to pay for essential imports. The increase in output was the result of mechanization rather than of an increased exertion on the part of the manpower employed. In Great Britain and other industrial countries the limited supply of electric power set a limit to further mechanization pending the construction of additional power stations. India and other agricultural countries made efforts to secure the capital equipment needed for their industrialization.

During the first half of 1949 there was a reduction of government controls but the scarcity of dollars that developed during the summer made it sometimes necessary to arrest and even reverse this tendency. In Great Britain the policy of nationalization continued. Budgetary deficits and dis-inflationary policies were responsible for further minor increases in taxation.

Dominions producing raw materials continued to enjoy prosperity owing to the demand for their products. The temporary setback in the prices of their staple exports through the business recession in the United States during the first half of the year became reversed as a result of the devaluation of the pound, which resulted in a sharp recovery in the prices of these raw materials. Disturbances in southeastern Asia handicapped economic activity, though order was largely restored in Malaya, Indonesia and French Indo-China. War fears in Europe were generally less acute than in 1948 and consequently this source of uncertainty was no longer such a strong handicap to business expansion on the continent.

The increase of the general price levels in Europe following upon devaluation was moderate during the last quarter of 1949. Nor was there any immediate sharp recovery in business activity comparable with that witnessed in many European countries after the depreciation of sterling and a number of continental currencies in 1931. On the other hand, since on this occasion most countries west of the "iron curtain" immediately followed Great Britain in devaluing their currencies, there was no repetition of the experience of the 1930s when resistance to devaluation forced Germany, France, Italy and other countries into deflation which tended to aggravate their business depression. After the devaluation of 1949 there was an all-round moderate improvement of business conditions in western Europe, through the stimulus to exports to the dollar area and the removal of fears that Europe might have to follow the United States in the latter's business recession. The actual increase of production stimulated by the devaluation was moderated by the existence of full or near-full employment already in most western European countries.

At the end of 1949 business conditions in Europe presented a totally different picture from that of a year earlier. The abnormal postwar buying of consumers' goods to replace those used up or destroyed during World War II, which was a prominent feature of the previous postwar years, came to an end. On the other hand, normal current purchases were running at a sufficiently high level to keep industry fully engaged. (P. EG.)

United States. In the United States 1949 was characterized by some downward adjustment from the record business activity and the near-capacity utilization of plants and facilities of 1948. The buyers' strike, chiefly by business men, which struck a whole series of industries in the last quarter of 1948 as prices dropped, spread during the first half of 1949. Business buyers, fearful that prices would drop drastically, reduced orders and scrambled to get rid of inventories. This cautious policy was reflected in a substantial drop in industrial production and employment and both reflected and contributed to the continued decline in wholesale and retail prices. By mid-1949 production was down by 30 to 50% in some plants. Heavy unemployment appeared in mill towns of New England and the south, in shoe centres, and in areas where furniture and metal products were made.

Reduction in spending by business firms and other producers resulted in lower sales and output of heavy equipment.

Heavy industries in 1949, however, did almost twice the prewar volume of business.

In response to the impact of deflationary forces and the general business uncertainty which prevailed during the first half of the year, the board of governors of the Federal Reserve system reduced reserve requirements of member banks twice during the first six months of the year—first early in May and again at the end of June.

On the whole, consumer demand through the first half of 1949 continued high. The dollar volume of retail sales during the first quarter of the year was greater than in 1948 and was only slightly below 1948 during the second quarter. Steady consumer buying ended the hesitant business buying by early autumn and industrial activity expanded in spite of the coal and steel strikes, although production of soft goods and even of metal products continued to rise.

Personal Income and Expenditures. Total personal income in 1949 at $211,700 million was only 0·3 of 1% below 1948; salaries and wages income at $134,900 million was 1·5% greater than in 1948. Thus, the 7·2% drop in manufacturing pay rolls was more than offset by increases in the distribution and service industries and in government payments. According to the estimates of the Department of Commerce, the increase in total non-agricultural income just offset the drop in agricultural income resulting from sharp declines in prices of farm products. Personal consumption expenditures at the annual rate of around $178,700 million during the first half of the year, were slightly greater than during the first half of 1948. During the the third quarter of the year they showed an annual rate of $178,500 million, only slightly below the same period in 1948.

Employment. Total civilian employment for the first ten months of the year, as estimated by the Bureau of Labour Statistics, averaged 58·6 million out of a total estimated labour force of 63·5 million. Unemployment for this period averaged only 3·4 million, slightly above the normal frictional unemployment of about 3 million. The average employment of 58·6 million was only 1·1% below employment during the same period of 1948. Manufacturing employment for the year 1949 was 8·5% below 1948 and manufacturing pay rolls were down 7·2%.

Production. Industrial production, as measured by the Federal Reserve board index, dropped steadily from January to July, falling from 191 in January to 161 in July, a loss of 15·7%. After July, the index rose fairly steadily to an estimated 174 for December, but total industrial production for 1949 was almost 9% (8·9%) below 1948.

Steel production continued to expand through the first quarter of the year, dropped rapidly from April to July, rose substantially in August and September and dropped to the low point for the year in October when the steel strike closed many of the major plants. Total production for the year, however, was only 8·7% below 1948.

Prices. Although price movements during the first half of the year varied greatly by commodity and by marker, the general movement was clearly downward. At retail, food prices moved higher during the second quarter but prices of apparel, house furnishings and domestic fuels moved steadily lower. Primary market prices weakened further during the second quarter. Prices of non-ferrous metals broke drastically in May and June. In less than 90 days zinc prices dropped 47%; lead, 44%; and copper, 33% from their peaks. Prices of scrap steel dropped from $31·50 a ton at the end of March to $19·50 at the end of June. Textile prices declined more than 3% during the second quarter. On June 30, the prices of 28 commodities traded on organized exchanges and spot markets averaged 31% below the level of June 1948 and 37% below the wartime peak in 1947.

For the year 1949, wholesale prices of commodities other than farm and food dropped 2·5% below 1948. Prices received by farmers in 1949 were on the average 12·2% lower than in 1948. Wholesale prices, in general, for the year were 6·1% below 1948. Retail food prices for the year were down 3·8% from 1948 and the cost of living, 1·2%.

Agricultural Income. Prices of farm products in 1949, according to estimates of the U.S. Department of Agriculture, were down 12·2% from 1948. However, receipts from farm marketings were down only about 10% for the year, because of the disposal of a slightly larger volume of products.

Construction. Construction activity in 1949, as measured by the value of contracts awarded and reported by the F. W. Dodge corporation, was up 7·8% from 1948 with all types of construction contributing to the increase. Residential and public works and utilities contracts were each up slightly more than 12% from 1948. Non-residential contracts were up slightly less than 1% reflecting the decline in the expansion of industrial and commercial building.

During the first five months of the year the number of new houses (excluding farms) whose construction was begun each month was above that of the corresponding month in 1947 and in June, July and August was substantially greater than in the same months of 1948. The 98,000 houses that were begun showed an increase in August of 12% above Aug. 1948.

Business Profits. Business profits, after deduction of taxes, dropped from the high level of 1948, but were still considerably higher than in any previous years except 1947 and 1948. Profits after tax deduction for the first quarter of the year were at an annual rate of $17,300 million, but had dropped to $14,700 million in the third quarter. Dividend payments, however, were substantially greater in each of the first three quarters of 1949 than in the corresponding quarters of 1948, reflecting a more liberal dividend policy on the part of business men as the need for re-investment funds for expansion tapered off. Undistributed profits were reduced about 50% as compared with 1948. Corporate tax liability dropped with the decline in profits, being at the annual rate of about $9,500 million. Corporate profits after deduction of taxes were 23·6% below 1948 according to reports of the Federal Reserve board.

Banking. Of importance to domestic economy in 1949 were the continued large deposits and currency held by individuals. In January, the amount of such deposits and currency amounted to $168,200 million, only $2,000 million below Jan. 1948. By August the amount had dropped to $166,900 million, $200 million more than in Aug. 1948. During the first seven months of the year, currency outside banks remained substantially unchanged at about $25,000 million; adjusted demand deposits fluctuated between $81,000 million and $85,000 million; and time deposits between $57,600 million and $58,400 million. Loans of all banks on March 30, 1949 had risen to $48,220 million, an increase of $50 million from the amount outstanding on Dec. 31, 1948, and on Sept. 28 the amount stood at $48,050 million. Commercial bank loans reached $42,370 million on March 30 and stood at $41,780 million on Sept. 28, according to reports of the board of governors of the Federal Reserve system. The use of bank credit by business continued to expand throughout 1949.

Exports and Imports. Merchandise exports, including re-exports and civilian supplies for occupied areas, increased during April and May after a sharp fall in February, but dropped sharply in July and eased further in August. Imports during the first eight months of the year dropped continuously with the exception of a slight rise in March. For the year 1949 exports were down 6·1% from 1948 and imports 7·5%.

Labour Relations. During the first half of 1949 there were about 2,000 work stoppages due to labour-management disputes, a 10% increase over the Jan.-June 1948 period.

In terms of idleness, however, the estimated total for the first six months of 1949 was only about two-thirds as great as in the comparable periods of the two preceding years. Only 13 stoppages during this six-months period involved 10,000 or more workers. The fourth round of wage increases tended to be smaller than in previous years. Negotiations during the year resulted in an increase of 1 4% in the weekly earning of production workers in spite of a drop of 2·2% in hours worked per week. (*See* also BANKING; EMPLOYMENT; NATIONALIZATION; STOCKS AND SHARES; STRIKES AND LOCKOUTS; TAXATION.) (V. B. B.)

CABINET MEMBERS. The following is a list of cabinet members of Great Britain and the dominions on Dec. 31, 1949.

Great Britain

Post	*Name*
Prime Minister and First Lord of the Treasury	*Clement Richard Attlee
Lord President of the Council	Herbert Stanley Morrison
Secretary of State for Foreign Affairs	*Ernest Bevin
Chancellor of the Exchequer	*Sir Stafford Cripps
Minister of Defence	Albert Victor Alexander
Chancellor of the Duchy of Lancaster	Hugh Dalton
Lord Privy Seal	Viscount Addison
Lord Chancellor	Viscount Jowitt
Secretary of State for the Home Department	James Chuter Ede
Secretary of State for the Colonies	Arthur Creech Jones
Secretary of State for Commonwealth Relations	Philip John Noel-Baker
Secretary of State for Scotland	Arthur Woodburn
Minister of Labour and National Service	George Alfred Isaacs
Minister of Health	Aneurin Bevan
Minister of Agriculture and Fisheries	Tom Williams
Minister of Education	George Tomlinson
President of the Board of Trade	James Harold Wilson

Australia

Prime Minister	*Robert Gordon Menzies
Treasurer	Arthur William Fadden
Minister for Defence and Postwar Reconstruction	Eric John Harrison
Minister for Labour and National Service and for Immigration	Harold Edward Holt
Minister for Commerce and Agriculture	John McEwen
Minister for External Affairs and External Territories	Percy Claude Spender
Minister for Supply, Development, Works and Housing	Richard Gardiner Casey
Minister for the Interior	Philip Albert Martin McBride
Minister for Health	Sir Earle Page
Minister for Fuel and Shipping	George McLeay
Minister for Trade and Customs	Neil O'Sullivan
Minister for Air and Civil Aviation	Thomas Walter White
Postmaster General	Hubert Lawrence Anthony
Minister for the Army and for the Navy	Josiah Francis
Attorney General	John Armstrong Spicer
Vice President of the Executive Council	Dame Enid Lyons
Minister for Repatriation	Walter Jackson Cooper
Minister for Social Services	William Henry Spooner
Minister for Information and Transport	Oliver Howard Beale

Canada

Prime Minister and President of the Privy Council	*Louis Stephen St. Laurent
Minister of Trade and Commerce	Clarence Decatur Howe
Minister of Agriculture	James Garfield Gardiner
Minister of Mines and Resources	Colin Gibson
Minister of Labour	Humphrey Mitchell
Minister of Public Works	Alphonse Fournier
Postmaster General	Edouard Rinfret
Minister of National Defence	Brooke Claxton
Solicitor General	Hughes Lapointe
Minister of Transport	Lionel Chevrier
Minister of National Health and Welfare	Paul Joseph James Martin
Minister of Finance	Douglas Charles Abbott
Minister of National Revenue	James Joseph McCann
Minister without Portfolio	Wishart McLea Robertson
Minister without Portfolio	James Angus MacKinnon
Minister of Veterans Affairs	Milton Fowler Gregg
Minister of Fisheries	Robert Wellington Mayhew
Secretary of State for External Affairs	*Lester Bowles Pearson
Minister of Justice and Attorney General	Stuart Sinclair Garson
Minister of Reconstruction and Supply	Robert Henry Winters
Secretary of State and Minister for Newfoundland	Gordon Bradley

Ceylon

Prime Minister and Minister of Defence and External Affairs	*Don Stephan Senanayake
Minister of Commerce and Trade	Henry Woodward Amarasuriya
Minister of Health and Local Government	Solomon West Ridgeway Dias Bandaranaike
Minister without Portfolio	Alexander Ekanayake Goonesinha
Minister of Labour and Social Services	Tuan Brahanudeen Jayah
Minister of Finance	Junius Richard Jayewardene
Minister of Transport and Works	Sir John Kotelawala
Minister of Education	Edward Alexander Nugawela
Minister of Industries, Industrial Research and Fisheries	Ganapathipillai Gangesar Ponnambalam
Minister of Justice	Lalita Abhaya Rajapakse
Minister of Food and Co-operative Undertakings	Ratnayake Mudiyanselegedera Abeyratne Ratnayake
Minister of Agriculture and Lands	Dudley Shelton Senanayake
Minister of Posts and Telecommunications	Cathiravelu Sittampalam
Minister of Home Affairs and Rural Development	Edwin Aloysius Perera Wijeyeratne

India

Prime Minister and Minister of External Affairs	*Pandit Jawaharlal Nehru
Deputy Prime Minister, Minister for States, Home, Information and Broadcasting	*Sardar Vallabhbhai Patel
Minister for Education and Arts	Maulana Abul Kalam Azad
Minister for Finance	John Matthai
Minister for Defence	Sardar Baldev Singh
Minister for Labour	Jagjivan Ram
Minister for Communications	Rafi Ahmed Kidwai
Minister for Health	Rajkumari Amrit Kaur
Minister for Law	Bhimrao Ramji Ambedkar
Minister for Industry and Supply	Syama Prasad Mookerjee
Minister for Works, Mines and Power	Narhar Vishnoo Gadgil
Minister for Commerce	Kshitish Chandra Neogy
Minister for Railways and Transport	N. Gopalaswami Ayyangar
Minister for Food and Agriculture	Jairamadas Daulatram

New Zealand

Prime Minister and Minister of Finance	*Sidney George Holland
Deputy Prime Minister, Minister of Agriculture and Marketing, Scientific and Industrial Research	Keith Jacka Holyoake
Minister of Labour, Employment, Mines and Immigration	William Sullivan
Attorney General and Minister of Justice	Thomas Clifton Webb
Minister of Education	Ronald Macmillan Algie
Minister of Internal Affairs	William Alexander Bodkin
Minister of Customs, Industries and Commerce, and Associate Minister of Finance	Charles Moore Bowden
Postmaster General	Walter James Broadfoot
Minister of Lands, Forests and Maori Affairs	Ernest Bowyer Corbett
Minister of External Affairs, Island Territories, Broadcasting and Tourist and Health Resorts	Frederick Widdowson Doidge

Post	*Name*
Minister of Works, Housing, State Hydro-electric, Transport and Railways, Civil Aviation and Marine	William Stanley Goosman
Minister of Defence (Navy, Army, Air) and Rehabilitation and War Pensions	Thomas Lachlan MacDonald
Minister of Social Security and Health	Jack Thomas Watts
Minister without Portfolio, and Minister for the Welfare of Women and Children	Mrs Grace Hilda Ross
Minister without Portfolio, Assistant to Prime Minister and State Advances Census and Statistics and Public Trust Office	John Ross Marshall
Minister without Portfolio, Assistant to Prime Minister, State Fire Office, Government Life Insurance Department and Government Superannuation Fund	William Henry Fortune
Pakistan	
Prime Minister and Minister for Defence, States and Frontier Regions	*Liaquat Ali Khan
Minister for Foreign Affairs and Commonwealth Relations	*Sir Mohammad Zafrullah Khan
Minister for Finance and Economic Affairs	Ghulam Mohammad
Minister for Law and Labour	Jogendra Nath Mandal
Minister for Education and Commerce	Fazlur Rehman
Minister for Food and Agriculture	Pirzada Abdus Sattar
Minister for the Interior, Information and Broadcasting, and Refugees and Rehabilitation	Khwaja Shahabuddin
Minister for Kashmir Affairs	Mushtaq Ahmad Gurmani
Minister for Industries	Chaudhry Nazir Admad
Minister for Communications	Sardar Bahadur Khan
Minister for Works and Health	A M. Malik
South Africa	
Prime Minister and Minister of External Affairs	*Daniel François Malan
Minister for Finance	Nicolaas Christiaan Havenga
Minister for Native Affairs	Ernest George Jansen
Minister for Lands, Irrigation and Forestry	Johannes Gerhardus Strydom
Minister of Justice, Education, Arts and Science	Charles R. Swart
Minister for Transport	Paul Sauer
Minister for the Interior and Mines	Theophilus Ebenhaezer Donges
Minister for Defence, Posts and Telegraphs	François Christiaan Erasmus
Minister for Economic Affairs	Eric Hendrik Louw
Minister for Public Health and Social Welfare	A J Stals
Minister for Labour and Public Works	Barend Jacobus Schoeman
Minister of Agriculture	S. P. le Roux

* See separate article (*See* also GOVERNMENT DEPARTMENTS)

CAIRO, the capital of Egypt, lying across the Nile north and west of the Mokattam hills; the largest city in Africa, the largest Arab-speaking city in the world and the greatest cultural centre of Islam. Area: *c.* 8 sq. mi. Pop. (1947 est.): 2,100,500.

On May 31, 1949, a bill establishing a Cairo municipality was passed by the Egyptian Chamber of Deputies. By it a municipal council was set up consisting of the governor of Cairo as president, one elected member for each two of the Cairo constituencies represented in the Chamber, four members appointed by the council of ministers and a number of *ex-officio* members. Residence and other qualifications for electors were such as to exclude foreigners. The council is responsible for controlling the execution of the Cairo Municipality law, as well as the laws concerning hygiene, public order, buildings and public institutions, for discussing and approving the city budget, controlling the municipal revenues and operating the public services. The revenues of the municipality consist of taxes on buildings and certain other taxes. The municipality is under the supervision of the minister of public works, and the government is entitled in special circumstances to dissolve it and replace it by an administrative body formed by the minister.

There was a further increase in building during the year. Political conditions proved a deterrent to tourists; but an international tennis tournament was held in the spring and an Agricultural and Industrial exhibition in April attracted tens of thousands of visitors from all over Egypt. There were seasons of French drama and Italian opera at the Royal Opera house. Overcrowding of Cairo university, which had 17,000 students, was stated by a spokesman in August to be a cause of poor examination results. A plan for a second Cairo university was being studied by the government.

(C. Ho.)

CALCUTTA, the largest city of India and until 1912 the seat of the government of British India, extends over an area of 32 sq. mi. Pop. (1941 census): 2,108,891; with the suburb of Howrah, on the west bank of the Hooghly (Hugli) river, 2,488,183.

Depression in the important jute industry and a continued rise in the cost of living marked the economic life of Calcutta in 1949. Nevertheless, industrial unrest was not so prevalent as in the previous year. Political anxiety derived from evidence that the provincial government in office was losing some of its support, a portent being the defeat of the government candidate in the south Calcutta by-election. After a visit in August of Pandit Nehru, whose presence did much to improve people's spirits, it was decided that a provincial election should be held in the spring of 1950 and that meantime the government of Dr. B. C. Roy would remain in office.

In municipal affairs, Calcutta was fortunate since the administrative officer, S. N. Ray, effected reforms which greatly heartened those who were jealous for the good name of Calcutta's civic life. The police, too, under S. N. Chatterjee, maintained law and order to general satisfaction. Relations between all communities were good and in particular British residents enjoyed a goodwill which had not been displayed to them for a long time.

Plans for the future included a scheme for an electric underground railway and also the construction of a ship canal from Diamond harbour to Kidderpore docks to eliminate the 42 mi. of dangerous and difficult river navigation on that stretch of the Hooghly and to provide a deep water approach to Calcutta. The port reached the record figure of 760,000 D.W. tons in April as against the normal monthly average of from 550,000 to 600,000 D.W. tons. (E. Hd.)

CAMBODIA: *see* FRENCH UNION.

CAMBRIDGE UNIVERSITY. The academic year 1948-49 opened with the following numbers, the figures in parentheses showing the corresponding totals for 1938. The men's colleges had 5,504 (4,849) undergraduates, 1,206 (483) B.A.s, 376 (159) research students, and 1,551 (1,392) M.A.s. In the women's colleges there were 535 undergraduates, 100 fourth year and research students, and 309 M.A.s.

During 1949 the colleges were able to accept only one-twelfth of the applicants for admission. Most sets of rooms held two occupants but despite this, lodgings in the town were still difficult to obtain. The university authorities anticipated that this difficulty would be more serious in future, and to meet the situation, Christ's, King's, St. Catharine's and Newnham colleges started erecting new buildings, which rapidly neared completion.

H.M. the Queen inaugurated the new status of the women's colleges and was given an honorary degree, thus becoming

the first woman graduate. The Cambridge Training college for women received full university status, becoming as Hughe's Hall a recognized institution for women, with 70 students *in statu pupillari*.

New engineering laboratories on Coe Fen were formally opened by the chancellor. A farm was acquired for the new veterinary school, and also a site for a new building for nuclear physics in Madingley road. In his annual address the vice chancellor stated that sufficient land now belonged to the university and colleges to supply all foreseeable needs for many generations.

The following received honorary doctorates during 1949: C. H. Dodd, emeritus professor of divinity; J. de la Morandière, doyen de la faculté de droit de Paris; Lillian Margery Penson, vice chancellor of London university; N. H. Baynes, emeritus professor of Byzantine history, London; G. Müller, professor of modern German, Bonn; Dame Myra Hess.

The following resignations occurred during the year: Miss K. T. Butler (mistress of Girton); A. F. Scholfield (university librarian); Professor F. Debenham (geography); Professor C. H. Dodd (divinity); Professor A. C. Chibnall (biochemistry); and Professor G. F. Webb (fine art).

Amongst the losses by death were: T. Thornely (Trinity Hall), the oldest Cambridge resident; W. F. Reddaway (King's), late censor of Fitzwilliam Hall, an authority on Scandinavian and Polish history; Dr. F. H. A. Marshall (Christ's), author of *Physiology of Reproduction*, who left funds to found a chair on the subject; Sir Rowland Biffen (Emmanuel), the agricultural botanist, who left funds to Fitzwilliam museum for water colours; G. T. Lapsley, formerly lecturer on constitutional history; S. A. Cook (Caius), emeritus professor of Hebrew and author of many biblical books.

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CAMEROONS: *see* BRITISH WEST AFRICA; FRENCH UNION; TRUST TERRITORIES.

CANADA, DOMINION OF. A self-governing member of the Commonwealth of Nations covering all North America north of the United States except Alaska. Canada is a federal union under the terms of the British North American act (1867). The original provinces were:

	Area (in sq mi)	*Population* (1941 census)
Nova Scotia	21,068	577,962
New Brunswick	27,985	457,401
Quebec	594,860	3,331,882
Ontario	412,582	3,787,655
To these were added:		
Manitoba (1870)	246,512	729,744
British Columbia (1871)	366,255	817,861
Prince Edward Island (1873)	2,184	95,047
Alberta (1905)	255,285	796,169
Saskatchewan (1905)	251,700	895,992
Newfoundland and Labrador (1949)	152,734	*295,440
There are also two territories:		
Northwest Territories (Franklin, Keewatin and Mackenzie)	1,304,903	12,028
Yukon	207,076	4,914
Total	3,843,144†	11,802,095

*1938 est. †Including 228,307 sq mi of fresh water
SOURCE: *The Canada Year Book 1948-49*, Ottawa.

The population of Canada was estimated in mid-1949 at 13,636,000 and that of Newfoundland and Labrador (1947) at 315,643; the total population of the dominion, after the incorporation of Newfoundland was estimated in mid-1949 at 13,545,000. Over two-thirds of this population is concentrated in one-tenth of the total area of the dominion (southern parts of Ontario and Quebec, New Brunswick, Nova Scotia and Prince Edward Island). Canada's births in 1948 totalled 347,222, according to preliminary figures, which was equivalent to a birth rate of 27·0 as compared with 28·6 in 1947. The natural increase in 1948 was 227,870. Languages (1941): English (49·7%), French (30·3%), German (4%), Ukranian (2·6%), Scandinavian (2·1%), Dutch (1·9%), Hebrew or Yiddish (1·5%), Polish (1·5%), others (6·2%). Religions (1941): Roman Catholic 4,800,895; United Church of Canada 2,204,875; Church of England, 1,751,188; Presbyterian, 829,147; Baptist, 483,592; Lutheran, 401,153; Greek Catholic, 185,657; Greek Orthodox, 139,629; Jewish, 168,367; others, 542,152. Chief towns: Ottawa (*q.v.*) (cap., pop., 1948 est., 190,465); Montreal (pop., 1948 est., 1,096,060); Toronto (pop., 1947 est., 695,302); Vancouver (pop., 1947 est., 354,150); Winnipeg (pop., 1947 est., 234,201); Quebec (pop., 1947 est., 194,639). Governor-general, Viscount Alexander of Tunis; prime minister, Louis Stephen St. Laurent (*q.v.*); secretary of state for external affairs, Lester Bowles Pearson (*q.v.*).

History. In 1949 Canada welcomed Newfoundland into confederation, as her tenth province. The union, agreed on Dec. 11, 1948, was effected on March 31, 1949, to the accompaniment of greater enthusiasm in Ottawa than in St. John's. Although some Newfoundlanders conceded that confederation had brought benefits to their island in the way of social services, dissatisfaction with the economic terms of union was expressed by W. J. Browne, Progressive-Conservative member for St. John's West, on Sept. 21, in the first formal address to be made by a Newfoundland member in the Canadian House of Commons.

The Liberal party, which had governed Canada since 1935, was returned to power with the largest majority in its history, in the federal general election on June 27, under the leadership of Louis S. St. Laurent, a distinguished French-Canadian barrister, who had succeeded W. L. Mackenzie King as prime minister seven months before. (*See* ELECTIONS.)

It was natural that St. Laurent should seek to remove what some had felt were legal ambiguities surrounding the Canadian constitution. Under his leadership, the House of Commons adopted two important constitutional changes. First, it voted to abolish Canadian appeals to the judicial committee of the Privy Council in London, thereby constituting the Supreme Court of Canada as the court of last resort in the dominion. Secondly, the Canadian parliament voted itself powers to amend the dominion's constitution in respect of matters within federal jurisdiction. Both measures were supported by that influential Canadian school of thought which favoured a strong centralized federal government at Ottawa. They were opposed by George Drew, a Canadian air ace of World War I and a former Progressive-Conservative premier of Ontario, leader of the opposition. Drew championed the rights of the provinces in the Canadian constitution, as being a guarantee of protection for the individual citizen against a too powerful federal authority. The third party in the House of Commons—the Co-operative Commonwealth (Labour) federation—secured the adoption of a provision that there should be a session of the parliament at least once each year and that no House of Commons should continue for more than five years. St. Laurent accepted this, with the reservation that " in time of real or apprehended war, invasion or insurrection" a House of Commons might be prolonged.

Canada moved towards closer integration of her defence preparations with those of the United States. It was revealed that the two countries had adopted the same communications systems, battle procedure and battle orders and were working towards full standardization of weapons. They were



On April 1, 1949, ceremonies were held to mark the entry of Newfoundland into the Canadian confederation. Photo shows Louis St. Laurent, prime minister, making the first chisel mark in the blank shield at the entrance to the parliament buildings at Ottawa. The shield would eventually bear the arms of Newfoundland.

co-operating in military research. The prime minister indicated on Oct. 20 that his government saw little immediate danger of war.

An important development in Canadian labour history was the expulsion of Communist elements from national labour organizations. The Trades and Labour Congress of Canada, convened in Calgary on Sept. 15, adopted resolutions recommending that affiliates should expel all known Communists by constitutional procedure. The Canadian Congress of Labour, meeting in Ottawa on Oct. 3, sustained by an overwhelming vote the suspension by their executive of five officers of the Communist-tinged United Electrical Workers' union.

Although the average Canadian experienced a sharp increase in the cost of living during the year, employment was, generally speaking, maintained at a high level. In the week ending June 4 total employment in Canada was 5,018,000, comprising 3,918,000 males and 1,100,000 females. Total Canadian labour income for the first six months of 1949 was $3,687 million, which represented an increase of approximately 10% over 1948.

Devaluation and Trade. Canada's dollar was often described as a sort of half-way house between the pound sterling and the American dollar. It was only to be expected that a major change in the value of sterling would be followed by some sympathetic adjustment of the Canadian exchange rate. Sir Stafford Cripps announced devaluation of the pound sterling in a broadcast on the evening of Sunday, Sept. 18. On the following night Canada devalued her dollar by 10%. Commenting on Britain's action, Douglas Abbott, Canadian minister of finance, said: "The action which the United Kingdom has taken constitutes a courageous and positive effort by the British people to do their part in the common endeavours that are necessary to provide a basis for a real and enduring recovery of world trade."

Canada's dollar position *vis-à-vis* the United States showed some improvement during the year but the contraction of her traditional British market for foodstuffs and raw materials threatened to precipitate a grave situation. Under these circumstances, the Canadian government took measures designed to provide Britain with the means of payment for Canadian goods through increasing Canada's purchases of British products. Speaking in Montreal, on Oct. 20, C. D. Howe, minister of trade, said that Canada's chief difficulty was that she bought more from the United States than she sold to that country, and bought less from Britain than she sold to her. If Canada could somehow divert about $400 million worth of annual imports from the United States to the United Kingdom, her trade problem would be solved.

To help increase the sale of British goods in the dominion, a Canadian Dollar-Sterling Trade board was formed in October, being an advisory committee of Canadian industrialists, designed to work in close co-operation with the United Kingdom Dollar Exports board. James S. Duncan, chairman of the Canadian board, stated at a press conference in London on Nov. 4 that Canadian business men considered

it "not easy but not hopeless" to bridge the dollar gap between Britain and Canada by increased British exports.

Even as she faced these trading difficulties, Canada became aware of new potentialities of mineral wealth within her own borders. There were tremendous deposits of high-grade iron ore in Labrador. There was the rapidly-expanding oil development in Alberta, already producing enough petroleum to supply the needs of the three prairie provinces, with proved reserves standing at 1,000 million barrels. There were supplies of uranium, titanium and base metals. Such resources, it was confidently predicted, would reinforce Canada's economy during the next few critical years.

Miscellaneous. It was announced that Donald Gordon, a member of the Canadian government's financial brains trust and deputy governor of the Bank of Canada, would become chairman and president of the nationally-owned railway system, the Canadian National railways, as from Jan. 1, 1950. It was the first time in 16 years that the government had reached outside railway ranks for a C.N.R. chief.

With regular flights linking her with Britain and Australia, Canada emerged as an important air traffic centre. It was recognized that it would probably be several years before a British air line operated from London to the far east through northern Canada but in the new air agreement with Great Britain, initialled on Aug. 2, the dominion conceded the right to use an airport in northern Manitoba. The first jet-propelled airliner produced on the North American continent, the Canadian-designed Avro passed successfully through initial flight tests over Ontario on Aug. 10.

Examining cultural facilities, Canada's Royal Commission on National Development in the Arts, Letters and Sciences held public hearings in a number of cities. (L. Bp.)

Education. With the exception of French-speaking and Roman Catholic Quebec, elementary and secondary education is almost entirely state-controlled. (1946) State-controlled schools in Canada, including primary schools in Quebec, 31,130, pupils 2,039,280, teachers 75,932 Universities (18) and a number of other institutions of higher education, students 157,120 Illiteracy (1931) 3·8%.

Agriculture and Fisheries. Main crops ('000 metric tons, 1948; 1949 est. in brackets): wheat 10,705 (10,113); oats 5,207 (4,673); barley 3,375 (2,724); rye 644 (251); maize 315; potatoes 2,800 (2,400); tobacco 57. Livestock (in '000 head): cattle (Dec. 1947) 8,943; sheep (Dec. 1947) 1,558; pigs (Dec. 1948) 5,381; horses (June 1948) 1,905; chickens (June 1948) 69,678. Fisheries, total catch (1948). weight 1,270 million lb ; value $59·8 million.

Cash income from the sale of farm products (million dollars, 1948): total 2,450; wheat, including participation payments 560, other grains 213; potatoes 51; tobacco 38, fruits and vegetables 99; forest products 63; cattle and calves 434; hogs 301; dairy products 389; poultry and eggs 181; all other products 120. Agricultural labour force (June 1949): total 1,123,000; farm operators 667,000; paid workers 154,000; unpaid family workers 302,000.

Food production ('000 metric tons, 1948; 1949, six months, in brackets): butter 129 (56); cheese 39·2 (18·9); meat 637 (266) of which beef 340 (148) and pork 272 (116); wheat flour 1,987 (843).

Industry. (1946) Industrial establishments 31,249; persons employed 1,058,156, gross value of production $8,036 million, net value $3,467 million. Fuel and power (1948; 1949, six months, in brackets): coal ('000 metric tons) 15,244 (7,525), lignite 1,440 (741); natural gas (million cu ft) 43,800 (27,585); electricity (million kwh.) 44,569 (23,462), crude oil ('000 metric tons) 1,591 (1,262). Raw materials ('000 metric tons 1948; 1949, six months, in brackets). iron ore, metal content 1,188 (851); pig iron 2,096 (1,148); steel ingots and castings 2,904 (1,520); copper 219 (117); lead 149 (68); zinc 211 (120); nickel 120 (61); synthetic rubber 41 2 (25·2); gypsum 3,216 (1,089); asbestos 654 (141), gold ('000 fine oz) 3,528 (1,963); silver ('000 fine oz.) 16,110 (8,186). Manufactured goods ('000 metric tons 1948; 1949, six months, in brackets). wood pulp 7,687 (3,853); newsprint 4,664 (2,496); cement 2,244 (1,201); cotton yarn 80 6 (41·9); wool yarn 7·8 (3 5)· woven cotton fabrics (million m.) 245 (127); timber (million ft. board measure) 2,658 (1,366); automobiles (in thousands) 264 (140).

Index of industrial production (1935-39=100, 1948, 1949, six months, in brackets) total production 181·5 (184·6); gold 83·9 (93·9); copper 94 6 (101·9); nickel 134·6 (139·4); coal 122·5 (120·0); meat products 142·5 (130·9); dairy products 125·4 (126·3); flour and feed 155·8 (133·7); sugar 154·6 (157·8); beverages 255·8 (250·0); tobacco products 204 2 (219·4); rubber products 239·8 (239·3); leather products 138·0 (141·4); textiles 167·8 (172·4); clothing 139·2 (145·9); paper products 184·7 (182·6); printing and publishing 163·8 (166·7); petroleum and coal products 193·1 (194·0); chemical products 182·2 (187·0); wood products 155·2 (157·7); iron and steel products 221·2 (232·5); transportation equipment 236·4 (246·1); non-ferrous metals and products 205·0 (213·7); electrical apparatus 260·8 (277·3); non-metallic mineral products 233·7 (220·0).

Canadian labour income (million dollars, 1948): total 7,128; agriculture, logging, fishing, trapping and mining 644; manufacturing 2,426; construction 476; public utilities, transportation, communications, storage, trade 1,853; finance, services (including government) 1,509; supplementary labour income 220. Average weekly salaries and wages in manufacturing (1948): $40·91.

Foreign Trade. Imports: (1948) $2,637 million; (1949, six months) $1,410 million. Exports: (1948) $3,110 million; (1949, six months) $1,438 million. Main sources of imports (1948; in brackets, 1938): United States 68% (63%); United Kingdom 11% (18%). Main destinations of exports (1948; in brackets, 1938): United States 49% (32%); United Kingdom 22% (41%). Main commodities imported (1948; in brackets, 1938) machinery and vehicles 20% (15%); petroleum and products 11% (8%); iron, steel and manufactures 9% (9%); coal and products 8% (6%); cotton and manufactures 5% (4%); wool and manufactures 4% (4%): chemicals and allied products 5% (5%). Main commodities exported (1948; in brackets, 1938). newsprint 12% (12%); wheat and wheat flour 12% (13%); wood and manufactures 10% (8%); woodpulp 7% (3%); grains other than wheat 3% (3%); copper and manufactures 3% (6%); nickel 2% (6%)

Transport and Communications. Roads (1946): surfaced 140,049 mi , non-surfaced 412,914 mi. Licensed motor vehicles (Dec. 1948): cars 1,473,000, commercial vehicles 475,000. Railways· steam lines (1947) 42,322 mi., passenger-mi. (1948) 3,444 million; freight net ton-mi. (1948) 53,278 million. Shipping (Dec. 1947) merchant vessels, including vessels for inland navigation, 10,931, total net tonnage 1,710,031. Air transport (1948): passenger-mi. 390 million, cargo net ton-mi. 6 million. Telephones (1946) 2,026,118. Wireless licences (1947) 1,816,840.

Finance and Banking. (Million Canadian dollars) Budget· (1948-49) revenue 2,768, expenditure 2,193; (1949-50 est.) revenue 2,477, expenditure 2,390. National debt (Dec. 1948; in brackets Dec. 1947): $15,758 (15,558) of which $309 (210) was foreign debt. Currency circulation (Sept. 1949; in brackets, Sept. 1948): $1,176 (1,180). Gold reserve (Sept. 1949; in brackets, Sept. 1948): 460 (378) million U.S. dollars. Foreign exchange reserve (Sept. 1949; in brackets, Sept. 1948)· 535 (484) million U.S. dollars. Bank deposits (Aug. 1949; in brackets, Aug. 1948): $3,033 (2,914). Monetary unit: *Canadian dollar* with an exchange rate (Dec. 1949; in brackets, Dec. 1948) of 3·08 (4·03) dollars to the pound. The restoration of the discount of nearly 10% on the Canadian dollar in terms of the U.S dollar followed the devaluation of sterling on Sept 18, 1949

Bibliography. D. G. Creighton, *Dominion of the North* (Boston, 1949); J. Douglas Gibson, ed., *Canada's Economy in a Changing World* (Toronto, 1949); A. R. M. Lower, *Colony to Nation* (Toronto, 1949); G. M. Wrong, C. Martin and W. N Sage, *The Story of Canada* (Toronto, 1949).

CANADIAN LITERATURE. Contemporary themes predominated in the Canadian novels of 1949. Constance Beresford-Howe's *The Invisible Gate* portrayed family life in Montreal; Isabelle Hughes' *Time in Ambush* did the same for Toronto. Len Peterson's *Chipmunk*, a study of maladjustment, and Sol. Allen's *Toronto Doctor* also used Toronto settings. Leo P. Walsh discussed the contemporary Canadian attitude to illegitimacy in *The Sinful Town*.

Other 1949 English-Canadian novels went into the past for their themes and settings. Ethel Wilson's chief character in *Innocent Traveller* spanned 100 years, from Victorian England to modern Vancouver; Kathleen Coburn's *The Grandmothers* covered nearly the same period, with one lively grandmother in Ontario and the other in Czechoslovakia; Mazo de la Roche's sentimental *Mary Wakefield* covered the 1890s in her famous Jalna saga. Other periods appealed to other authors: Charles Terrot went to Nova Scotia in 1755 for his robust *Passionate Pilgrim;* Harry Symons to the voyage of Columbus for his realistic *Three Ships West;* Bertram Brooker to Jerusalem for his vigorous portrait of Barrabbas, *The Robber*.

Biography continued to attract writers and there appeared: *Tom Cullen of Baltimore*, Judith Robinson; *Brûlé, Immortal Scoundrel*, J. H. Cranston; *Link to the North* (Mickey Ryan

of Arctic fame), G. J. Tranter; *Mackenzie King of Canada*, H. Reginald Hardy. Personal memoirs prompted three: Nancy Jones, a preacher's wife, wrote of her life in *For Goodness' Sake;* W. T. Allison recalled a professor's life in *This for Rembrance;* Ruth Harvey recalled memories of the old-time theatre in *Curtain Time.*

The rest of the 1949 non-fiction was extremely varied. A number of personal commentaries were compelling: Robertson Davies was by turns witty and caustic with *The Table Talk of Samuel Marchbanks;* Hugh MacLennan searchingly examined the Canadian personality in *Cross Country;* Arthur Meighen restated his political and other speeches in *Unrevised and Unrepented;* the material for *John Fisher Reports* and *Andy Clark and His Neighbourly News* was previously broadcast as 15-min. talks.

French-Canadian. Critics hailed Ringuet's (the pseudonym of Phillips Panneton) *Le poids du jour* as his best novel and the leading book of 1949. It covered 50 years of small-town and Montreal city life before and after World War I with lively fidelity. Jean Simard's *Hôtel de la reine* was a psychological story with divertingly humorous overtones. Germaine Guèvremont's *Marie-Didace* was a poetic treatment of typical French-Canadian rural life. Claude Véla portrayed family conflicts solved by faith in *Dérive* and Claude Surlands went to an old chateau in the Carpathian mountains for love and adventure in *La Campanule des Karpathes.* Other outstanding novels of the year included André Giroux's *Au delà des visages* and G. Moberley's *Diana.*

The most significant nonfiction works were Robert Rumilly's *L'autonomie provinciale*, a well documented study of provincial rights and autonomy, and Dostaler O'Leary's *Introduction à l'histoire de l'Amérique latine.* (*See* also LITERARY PRIZES.) (C. CY.)

CANALS AND INLAND WATERWAYS.

During 1949 the Transport commission published its first report and accounts covering the year 1948. Results were better than anticipated; but operations of the Docks and Inland Waterways executive showed deficits for canal tolls and carrying receipts, although the total traffic was higher than in 1947. Acquisition of the remaining railway-owned canals was continued. Improvements, including the modernization of carrying craft, were carried out. Dredging plant was transferred to deepen canals at shallow points and banks and tow-paths were restored to enable full loads to be carried. The pooling of resources speeded up the turn-round of craft.

Additional warehouses were acquired at Worcester and Stourport, but because of the national necessity of restricting capital expenditure and the shortage of labour and materials no major schemes of improvement were started. Authorization was obtained for improvements on the river Severn, and for wall repairs on the river Lee. Disused waterways were surveyed for alternative uses. In March a local committee bought the abandoned Basingstoke canal at a public auction for £6,000. Others were taken over by local bodies, but conversely a narrow boat reached Newbury *via* the Kennett and Avon canal—the canal's first use since 1927.

The commission owned or controlled 1,149 carrying craft (about one-sixth of the total operating on British canals) and 2,050 mi. of waterways, 1,000 mi. of which were broad gauge canals and canalized rivers. Through tolls were introduced, but only for each waterway division. Negotiation machinery was reviewed with trades unions, and the constitution of the Joint Industrial council was revised. Arrangements were made with Ministry of Education for a residential hostel at Birmingham for the children of canal boatmen.

The Port of London authority, concerned at rising dredging costs, set up a pilot model of the Thames estuary. The model was to be used experimentally to discover conditions likely to arise in a larger model to be built later embodying the knowledge gained. The larger model, it was hoped, would yield reliable data for practical application.

Internationally inland water transport was studied by an *ad hoc* working party at Geneva and by the International Chamber of Commerce. They compared the economic factors of the problem of transport co-ordination and recommended a study of true costs, rate structures, potential needs, quality of service, organization and conditions of employment.

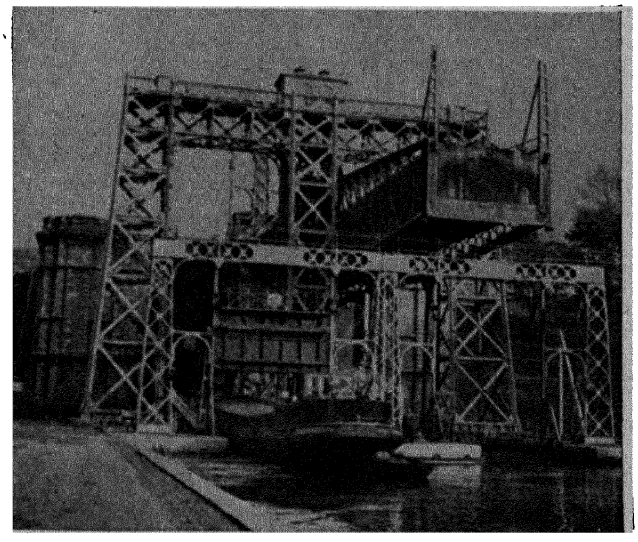
Belgium. Plans were drawn up to enable large Rhine-going lighters to proceed in the northern and eastern districts above Ghent, near Antwerp, and in the Brussels district to Clabecq and Liége, financed by the European Recovery programme. Mons, Charleroi, Tournai and La Louvière could only take craft up to 300 tons.

Danube. The first meeting of the International Danube commission, which was set up at the conference in Belgrade, Aug. 1948, was held in Galatz, Rumania, in Nov. 1949. F. Rudenco, Rumania, was elected chairman, and Mr. Linhart (Czechoslovakia), deputy chairman. Mr. Morozov, Soviet Union, was appointed secretary of the commission. The Rumanian government announced its decision to dissolve the Rumanian Danube Steamship company and to transfer its fleet and property to the joint Russian-Rumanian transport undertaking. Great Britain, France and the United States did not attend the meeting. On Nov. 15, they sent notes to the participating nations stating that they did not recognize the commission. The Lanchid, a new chain bridge over the Danube to replace one destroyed in World War II, at Budapest, was re-opened on Nov. 20.

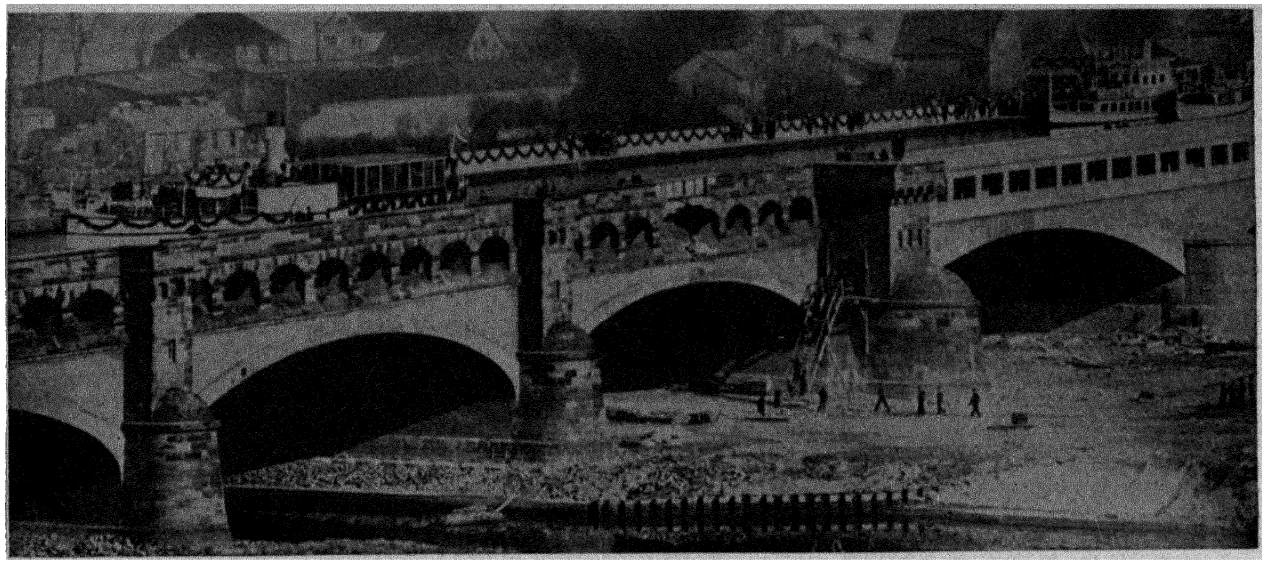
Ireland. The Milne report recommended re-organization of Irish transport with immediate acquisition of the public transport systems including the Grand canal company. Córas Iompair Éireann would be reconstituted and would bear administrative responsibility. A bill to give effect to these recommendations was published in October.

Netherlands. The Dutch inland water fleet numbered 17,100 vessels totalling 5 million tons—its prewar level. Work proceeded on the Amsterdam-Rhine canal for 2,000-ton ships.

Rhine. Navigation was greatly improved during 1949. Craft were able to pass in a two-way direction except in the Cologne area, where only one direction at a time was



An elevator for barges on a canal in Belgium. The elevator, which was installed in 1949, raised or lowered barges 48 ft.



The first vessel crossing the reconstructed Mittelland aqueduct over the river Weser, near Minden, Germany, Feb. 18, 1949.

permitted. The normal channel depth of 2½ m. between Emmerich and Ruhrort was re-established as was the buoyage to enable night navigation. The harbours at Duisburg-Ruhrort were cleared almost to their prewar capacity and much new equipment, including four 200-ton lift floating cranes and nine heavy lift portal cranes of 200-600 tons capacity, was provided. Work on the Rhine-Main-Danube was continued. The Mittelland aqueduct over the river Weser was re-opened on Feb. 18.

Sweden. The Roads and Waterways administration reported on the need in peacetime of the Falsterbo Ship canal, which had been cut across the peninsula of that name during World War II, to pass ships into and out of the Baltic without crossing German minefields. (W. A. F.)

United States. Of the estimated 65,000 mi. of potential inland waterways in the United States, approximately 30,000 mi. had been improved for navigation by commercial and pleasure craft by the end of 1949. All operations and maintenance of the system, which includes 185 harbours and 400 locks, remained the responsibility of the Corps of Engineers, Department of the Army, under the direction of congress.

The River and Harbour act approved on Oct. 13, 1949, provided $1,114,145,690 for the construction of 92 authorized projects in 37 states, including about $995 million for flood control and $119,500,000 for river and harbour projects. An additional $75 million was appropriated for maintenance, operation and care of the nation's vast network of ports and inland waterways, and $3,200,000 for planning, preliminary examinations and surveys of new projects. In addition, the lower Mississippi river and the Sacramento river in California received separate appropriations of $67 million and $3,600,000 respectively for construction, maintenance and operations.

Among the principal projects on which construction was begun or continued during the year were the McNary lock and dam and the Chief Joseph dam on the Columbia river in the interest of navigation, power development and irrigation; the New York and New Jersey channels; Dempoliso lock and dam, on Warrior river, Alabama; Houston ship channel, Texas; the Neches and Angelina rivers and the Sabine-Neches waterway, in Texas; lateral canal and lock project on the Mississippi river at Chain of Rocks, near St. Louis, Missouri; Morgantown dam and lock no. 2, on Monongahela river; Cleveland harbour; Missouri river between its mouth and Sioux City, Iowa; Pearl river, Mississippi and Louisiana; San Diego river and Mission bay, California; New Haven harbour, Connecticut; Jim Woodruff lock and dam, Apalachicola river, Florida.

According to preliminary estimates, the total net water-borne commerce of the United States, eliminating all known duplications of traffic between rivers and ports, reached the record level of 794,772,987 short tons in the calendar year 1948. Ocean traffic, foreign and coastwise, aggregated 335,253,737 tons.

United States water-borne commerce on the Great Lakes aggregated 118,000 million ton-miles. Inland waterway commerce, excluding the Great Lakes, totalled 40,276,403,000 ton-miles, including the deep sea traffic on the Mississippi river below Baton Rouge, Louisiana. Of this total, the Mississippi river system accounted for 27,859,246,000 ton-miles while the Gulf Intracoastal waterway carried 5,903,341,811 ton-miles. (*See* also DOCKS AND HARBOURS; FLOODS AND FLOOD CONTROL; PANAMA CANAL ZONE; SUEZ CANAL.) (G. HB.)

CANCER. The cause of cancer continued to be intensively studied in 1949. As far as can be judged, it arose from an alteration in the cell, a so-called mutation, which may take place under a variety of conditions, including exposure of the cells to injury or infection, which causes them to grow. W. R. Earle showed that if the cells of normal tissue are cultivated for a long time in an artificial culture medium their biological qualities may be altered so that they can on inoculation produce a malignant growth. His experiments were carried out with animal tissues and with standard methods of tissue culture. Slight irritations produced by exposure to physical agents, such as X-ray or radium, will change the individual cells into a new type of cell which is more or less permanent and ultimately is recognizable as a malignant growth. In other words, the cancer cell is simply a normal cell which under various conditions is so altered in the course of time that it is capable of extending into normal structures and ultimately causing the death of such structures. In animals there are certain types of tumours which differ somewhat from those in human beings and are apparently due to a mutation occurring in the tissues of the breast. John J. Bittner studied cancer of the breast in a strain of mice which was probably caused by the presence of a virus in the tissues. The virus was apparently transmitted by nursing and gave rise to a large number of cases of malignant

breast tumours among healthy animals that were permitted to nurse from an infected strain. The breast tumour tissue contains minute particles which could be demonstrated only under special conditions. These small particles were believed to be a type of virus, as they could be obtained in quantity only by centrifuging at a high speed the fluid obtained from extracts of these breast cancers. The demonstration of these particles was first made by R. D. Pasey and his colleagues in the department of experimental pathology of the University of Leeds, England. The suggestion that human breast cancer may be due to the same organism was much discussed in popular magazines during 1949, but there was no evidence of any such transmission of tumours in human beings.

The treatment of cancer with isotopes produced by the cyclotron was being carried out on a large scale in 1949, chiefly with iodine (I^{103}) and phosphorus (P^{32}) with or without radiation as an adjuvant. The radioactive iodine was used largely in the treatment of thyroid conditions, either without the application of surgery, or as part of a course of treatment which included surgery. Some clinics gave thiouracil at first, followed by radioactive iodine, to reduce the activity of the gland, followed by excision. Others simply gave the radioactive iodine followed by surgery. Mild cases might be sufficiently benefited by the radioactive iodine alone.

Of the blood diseases the only one which seems to be effectively treated is polycythæmia (excess in the number of red corpuscles in the blood). In the leuchæmias (diseases characterized by excessive production of white corpuscles) reduction of the cells by the administration of radioactive substances was accomplished, but dosage had to be carefully limited because of the destruction of the normal cells of the bone marrow as well as the pathological types. As a rule X-ray was a safer method of treatment of the leuchæmias, though in expert hands a combination of radioactive material and X-ray seemed to be of benefit.

The use of high voltage X-ray was being studied in 1949, using anode potentials of 1,000,000 volts or more, but, as might be expected, no great biological differences could be detected between the high voltages and the ordinary 200 or 300-kv. X-ray which had become fairly standardized. This was to be expected from the results published by Charles Packard who showed by using a biological object and measuring the output of the machine in an ionization chamber that there were no differences in the lethal effect of radiation produced by potentials from 150-kv. to 1,000,000-kv. The only advantage of the higher voltage is that the penetration is somewhat greater and hence can influence deeper tissues, but there was always the danger with such high voltage treatment of excessive damage unless measurements were carefully made. Also the cost of high-energy treatment made it impossible for all but a few research institutes to use it and the tendency was to use radium or one of the radioactive isotopes for local treatment and moderate-voltage X-ray equipment for general therapy, especially of internal cancer. (*See* also CHEMOTHERAPY; MEDICINE; SURGERY; X-RAY AND RADIOLOGY.)

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(F. C. W.)

CANNING INDUSTRY. Expansion of the canning industry throughout the world was again limited in 1949 by shortage of tinplate, which would not be alleviated until new plants came into operation. Nevertheless, some important commercial and technical developments took place.

Several leading British canners established new factories abroad. A former automobile factory at Port Elizabeth, South Africa, converted into a modern cannery for fruits, vegetables, soups, etc., came into operation. Another new cannery was erected in the Paarl area. A meat cannery—the biggest in East Africa—was established in Tanganyika by a large meat extract firm, which also obtained approval of the Sudan government for the erection of a cannery at Kosti to handle, when completed, 100,000 cattle annually.

There was a continued expansion of fish canning, notably in Australia and South Africa. Moves were made in South Africa to bring the fish canning concerns under unified control in order that the industry could develop along economic lines. A new cannery was built on Tristan da Cunha to pack crawfish tails for export to America.

Production began at the first fruit cannery to be set up in the Dominican Republic, West Indies. Locally owned, the cannery had a capacity of 20,000 lb. a day. Several canneries in Norway started to pack chickens for export.

With regard to technical developments during 1949, it was announced that the New South Wales Department of Agriculture and the Commonwealth Scientific and Industrial Research organization had canned cantaloupes for the first time. The Committee of Direction of Fruit Marketing in Queensland developed a process for canning bananas and made an experimental pack to test public reaction. An American development was a special can, containing cream and gas under pressure, to deliver whipped cream as required on pressing a knob. The Food Machinery Corporation of America developed a robot canning machine, handling fruit automatically from its arrival at the factory to the labelling and packaging of the cans. In Scotland, a process for canning haggis was developed to overcome the difficulty of exporting that delicacy.

Research organizations in Australia and South Africa investigated improved varieties of fruits and vegetables for canning; and efforts were made in those countries to establish standards for canned foods to enhance the prestige of the products abroad. Several countries sent factory ships and floating canneries to the Antarctic for the whaling season, which started in December. (G. H. M. F.)

United States. Canned fruits, juices, vegetables, fish, milk, and fruit and vegetable specialities in 1949 totalled approximately 533 million standard cases (preliminary estimate) compared with 552 million standard cases in 1948. These figures do not include poultry and other unclassified speciality products packed by the canning industry. Supplies of canned foods generally for 1949 were about equal to those of the previous season. There was a moderate increase in canned vegetables carried over from the previous year which, coupled with the slightly reduced total output, was expected to make for an even supply in the 1949-50 distribution. As in 1948, retail prices of canned fruits and vegetables, according to statistics from the U.S. Bureau of Labour Statistics, remained closer to pre-war levels than other foods, showing an increase from the period 1935-39 of about 54% as against more than 100% for all foods. The U.S. Department of Agriculture estimated that the consumption of canned fruits and vegetables per head in 1949 was 122% of the 1935-39 average.

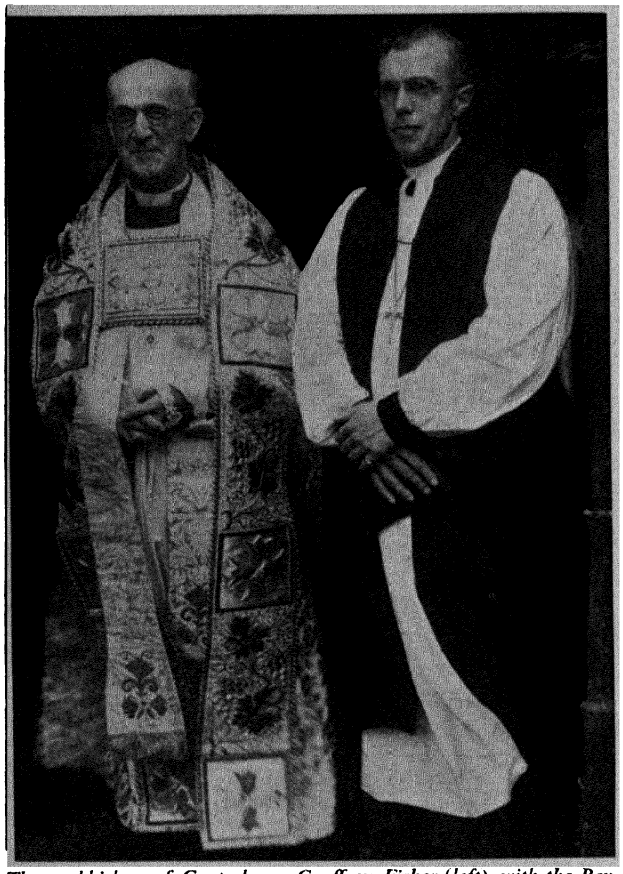
(E. J. C.)

CANTERBURY, ARCHBISHOP OF (FISHER, GEOFFREY FRANCIS), 100th archbishop of Canterbury, primate of all England (b. May 5, 1887).

(For his early life see *Britannica Book of the Year 1949*.)

On Dec. 15, 1948, the archbishop baptised Prince Charles-Philip-Arthur-George, son of Princess Elizabeth and the Duke of Edinburgh, at Buckingham palace.

In July 1949 in the Church assembly he deprecated the disestablishment of the Church of England, especially during the present period of industrial and social re-organization. He entertained at Lambeth 300 overseas missionaries. In March, in the House of Lords, he demanded an enquiry on artificial insemination. Although cautiously approving the practice where the husband was the donor, he condemned it where this was not the case. He publicly dissociated himself from the political views expressed by the dean of Canterbury. In the autumn he condemned the sale of contraceptives by means of slot machines and announced plans for the support of Church schools in the diocese of Canterbury. In December he visited Malta for the dedication of the Allied war shrine in the Anglican pro-cathedral. (A. J. MAC.)



The archbishop of Canterbury, Geoffrey Fisher (left), with the Rev. W. L. Scott Fleming, who was consecrated bishop of Portsmouth, at Southwark cathedral, Oct. 18, 1949.

CAPETOWN, the "mother city," one of the largest ports and the legislative capital of the Union of South Africa. Area: 79 sq. mi. Pop. (Dec. 31, 1948 est.): 402,850 including 194,050 Europeans. Inside the municipal boundaries there were, in 1949, 609 mi. of constructed roads and six independent sewage schemes.

Little was achieved during 1949 with the development of the large area (480 ac.) of reclaimed foreshore. The total cost of this scheme was estimated at £13 million and a committee was investigating how this sum could be raised and apportioned between the government, the South African railways and the city council. When completed, this reclaimed area would contain a new maritime terminal, railway station and administrative offices, hotel and goods depot, a civic centre and extensions to business and shopping districts.

The Table Bay power station was enlarged during 1949 to a capacity of 160,000 kw. Extensions in progress would increase this figure by another 40,000 kw. New industrial areas were developed. On the N'dabeni industrial township 12 new factories were erected and brought into commission. Two other factories neared completion towards the end of the year. At Epping 60 out of 130 ac. were allotted for industrial sites.

Lack of money meant little progress on housing schemes for Europeans, Eurafricans or Natives. (W. R. GN.)

CAPE VERDE ISLANDS: *see* PORTUGUESE COLONIAL EMPIRE.

CARIBBEAN COMMISSION. This is an advisory body set up by an agreement in Oct. 1946 between the four countries (France, the Netherlands, the United Kingdom and the United States) responsible for the administration of non-self governing territories in the Caribbean area. Its object is to promote and extend co-operation between these countries and their dependencies in the region in order to promote the social and economic welfare of the inhabitants, to encourage scientific and economic development, to facilitate the utilization of resources and to co-ordinate and facilitate research. The commission is chiefly concerned with directing and co-ordinating the activities of its two auxiliary bodies, the Caribbean Research council and the West Indies conference. It consists of 16 commissioners, four appointed by each of the member governments. It maintains a central secretariat at Port of Spain, Trinidad (secretary general: Lawrence W. Cramer). It meets twice yearly, meetings normally being held in rotation in the territories of the four metropolitan governments. The 8th session of the commission was held in Trinidad in June 1949 and the 9th session was held in the Virgin Islands in December. There was also a working committee which met in Washington in Feb. and Sept. 1949.

The Research council consists of from 7 to 15 members selected by the commission for their special qualifications. In 1949 the commission formed six research committees: agriculture, fish, wildlife and forestry; medicine, public health and nutrition; sociology and education; economics and statistics; engineering; industrial development. The council met in Trinidad in May 1949; 42 recommendations were submitted for the consideration of the commission: these covered all aspects of the research work carried out by the council, more particularly the publication of the *Yearbook of Caribbean Research* (1949), for which improvements and modifications in future editions were suggested. The research committee on agriculture, fish, wildlife and forestry held its inaugural meeting in Trinidad in July. Other publications were *The Tobacco Trade of the Caribbean*, *The Dairy Products Trade of the Caribbean*, and the *Report of the Third Session of the West Indian Conference*.

The commission continued the publication (in English, French, Dutch and Spanish) of the monthly bulletin containing reports of its activities, news of important developments in the dependent territories of the Caribbean, notes of Caribbean interest and articles. It inaugurated the publication of Economic Information leaflets, the initial issues being devoted to information on potential and existing sources of capital for Caribbean economic development. Plans were also made for the publication of a *Caribbean Review*.

Among other activities in 1949 for which the commission was responsible or which it sponsored were: the inauguration in January, in collaboration with the agricultural departments of the various territorial governments, of a Plant and Animal Quarantine Reporting service; the collection and

analysis of Caribbean legislation and the preparation of summaries in non-legal terms; a meeting in Trinidad in August of the Caribbean Interim Tourism committee, on which the independent republics of the Caribbean, as well as the dependent territories, were represented; and an informal meeting of meteorological and telecommunications experts in Barbados in August to discuss improvement and co-ordination of hurricane warnings in the east Caribbean.
(J. A. HU.)

CARMONA, ANTONIO OSCAR DE FRAGOSO, Portuguese army officer and statesman (b. Lisbon, Nov. 24, 1869). He followed an army career as a cavalry officer and was a general when first brought into contact with politics as a member of the non-party cabinet of António Maria da Silva, that held office for five weeks in Nov.-Dec. 1923. He was state prosecutor (da Silva being again premier) in the famous trial in Sept. 1925 of officers that were responsible for the abortive risings in April and July of that year and had turned it instead into an effective indictment of the parliamentary regime. Their acquittal preluded the events of the following year. After the military coup d'état of May 28, 1926, Carmona became a member of the governing triumvirate and minister of foreign affairs, then premier and minister of war after which—still in 1926—he assumed interim presidency by decree, continuing to hold the premiership till Aug. 27. Confirmed as president by the plebiscite of March 25, 1928, for five years (prolonged to seven in 1933 in accordance with constitution of that year), he was re-elected in 1935, 1942 (having first announced his intention of withdrawing from public life) and on Feb. 13, 1949, when he obtained 941,863 votes against General Norton de Mattos's 4,789. He paid a state visit in 1929 to Spain, in 1938 to São Thome, Principe and Angola (first ever paid by a head of the Portuguese state to any part of the empire) and in 1939, shortly before the outbreak of World War II, to Mozambique and the Union of South Africa (first ever paid to the Union by the head of any European state). On May 28, 1947, he was raised to the rank of first Marshal of Portugal. He was created a Lieutenant General of the Spanish army by General Franco in Oct. 1949. (W. C. AN.)

CAROLINE ISLANDS: *see* TRUST TERRITORIES.

CATTLE: *see* LIVESTOCK.

CELEBES: *see* NETHERLANDS OVERSEAS TERRITORIES.

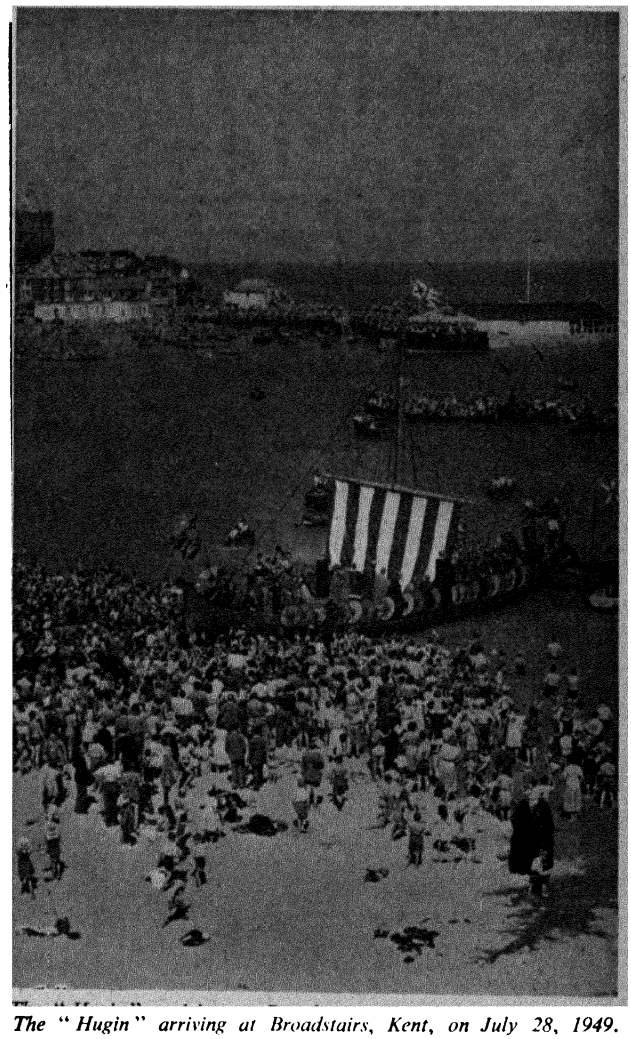
CELLULOSE PRODUCTS: *see* PLASTICS INDUSTRY: RAYON AND OTHER SYNTHETIC FIBRES.

CENSUS DATA: *see* VITAL STATISTICS.

CENTENARIES. The year 1949 saw the centenaries of many events in English history. Thirty-two Danes rowed from Frederikssund in a reconstructed Viking ship " Hugin " and landed at Broadstairs on July 28, 1949, near the place of the landing of Hengist and Horsa in 449. The " Hugin " was rowed to London where the Vikings were accorded civic welcomes, and later the boat was purchased by the *Daily Mail* (London) and toured many seaside resorts.

The 300th anniversary of the execution of King Charles I on Jan. 30, 1649, was kept by the Royal Stuart society. The Roman Catholic diocese of Plymouth held a three-week commemorative period in June 1949 to recall the rising in Devon and Cornwall in 1549 against the reform of the church services. Robert Kett's rebellion of 1549 was recorded by an exhibition held in the Castle museum, Norwich.

The 400th anniversary of the first authorization of the English *Book of Common Prayer* was celebrated on June 19 in parish churches throughout the country. An exhibition was held in the bible room at the British museum. The earliest



The " Hugin " arriving at Broadstairs, Kent, on July 28, 1949.

edition of the book was dated March 7, 1549, and it was ordered to be used exclusively in churches on and after Whitsunday, June 9, of the same year. Other ecclesiastical centenaries included the founding in 1249 of St. Augustine's church, Brookland, Kent.

The market town of Tenterden, Kent, was annexed to Rye and added to the Cinque Ports as a corporate body in 1449. On June 28, the same year, the first civic charter was granted to Nottingham. Both towns held celebrations to mark their quincentenaries, and Nottingham published a short history *Nottingham Through Five Hundred Years.* Maidstone, 20 mi. distant from Tenterden, held a week of civic pageantry from July 2 to 9 to celebrate the granting of the town's first charter of incorporation by King Edward VI on July 4, 1549. Oldham, Lancashire, and Tynemouth, Northumberland, both celebrated the 100th anniversaries of their charters.

University college, Oxford, on July 1, 1949, celebrated the septingenary of the death of its founder, William of Durham, whose bequest of 310 marks to the university for the maintenance of 10, 11 or 12 masters was the origin of the college's continuous history. St. Columba's college, Rathfarnham, county Durham, celebrated its centenary on its present site. The school was founded in 1843 by William Sewell and in 1849 was moved from its home beside the river Boyne. St. John's college, Hurstpierpoint, was also founded in 1849—by Nathaniel Woodard.

Queen's university, Belfast, celebrated the centenary of its opening when, in Nov. 1849, 90 matriculated students

attended the first lectures of Queen's college. A procession and special exhibition were held in Oxford on April 20 to mark the bicentenary of the opening of the Radcliffe Camera, which had been built after a gift of £40,000 by Dr. John Radcliffe.

The founding of Bedford college for women, London, by Elisabeth Jesser Reid in 1849 was commemorated in May 1949 by celebrations which included a visit by Queen Mary.

The centenary of the death of Fryderyk Chopin on Oct. 17, 1849, was recalled by many memorial lectures and concerts. Other centenaries were Johan August Strindberg (b. Jan. 22, 1849), Ivan Petrovich Pavlov (b. Sept. 26, 1849) and Edgar Allan Poe (d. Oct. 7, 1849).

Celebrations were held in university towns in Germany on Aug. 28, 1949, to mark the bicentenary of the birth of Johann Wolfgang von Goethe. At Frankfurt, his birthplace, and at Weimar, in the Soviet zone, the celebrations were on a large scale.

Whitsunday, June 3, 1949, was the occasion of the celebrations of the centenary of Denmark's parliamentary constitution granted by Frederik VII. The day closed with thousands of students carrying flaming torches outside Christiansborg castle, the official residence of the King and the seat of the Danish houses of parliament. Spokesmen from Greenland, Faeroe Islands, Norway, Sweden, Finland, Iceland and Great Britain brought greetings.

Although the actual date of the birth of Confucius has always been in doubt, the Chinese Nationalist government decreed that the 2,000th anniversary of his birth should be celebrated on Aug. 28, 1949.

Halifax, Nova Scotia, celebrated its bicentenary in September, and La Paz, Bolivia, its quadricentenary. (X.)

CEREALS: *see* GRAIN CROPS.

CEYLON, DOMINION OF. A self-governing member of the Commonwealth of Nations, lying off the southern extremity of India and approaching to within 6° of the equator. Area: 25,322 sq. mi. Pop.: (March 19, 1946 census) 6,693,945, (mid-1949 est.) 7,288,000. Languages: mainly Sinhalese (69%) and Tamil (21%). Religions: Buddhist (61%); Hindu (22%); Moslem (9%) and Christian, mainly Roman Catholic (7%). Chief towns (1946 census): Colombo (cap., 362,000); Jaffna (63,000); Dehiwala-Mt. Lavinia (56,000); Kandy (52,000). Governor-general, Sir Henry Monck-Mason Moore and, from July 6, Lord Soulbury; prime minister and minister of defence, Don Stephan Senanayake (*q.v.*).

History. The prime minister received many congratulations on Feb. 4, 1949, the first anniversary of Ceylon's independence. Internationally Ceylon was set back by the Soviet veto of its claim to membership of the United Nations. Its government on Dec. 23, 1948, announced their refusal of harbour or airport facilities to Dutch ships or aircraft carrying troops or war materials to Indonesia; the ban was lifted on July 19. Early in the year S. W. R. D. Bandaranaike, on a visit to New Delhi, suggested that India, Pakistan, Burma and Malaya should make regional arrangements for mutual defence under the United Nations charter. In April, D. S. Senanayake attended a meeting of Commonwealth prime ministers in London. On his return he revealed that the British government agreed to help in the organization of Ceylon's defence forces. In September the Earl of Caithness, who on May 10 had been appointed military adviser, became the first commander in chief of Ceylon's forces. Lord Soulbury assumed the governor-generalship on July 6 in succession to Sir Henry Monck-Mason Moore who had departed a few weeks earlier, the administration in the interim being in the hands of the chief justice, Sir Arthur Wijayewardene.

Ceylon kept in step with India in devaluing her rupee so as to maintain the sterling parity of 1*s.* 6*d.* The relationship between the Ceylon and the Indian rupee, however, was severed by the parliament at Colombo on Sept. 20. A new agreement was made between the British government and the government of Ceylon on the use of Ceylon's sterling balances for a further year to June 30, 1950. The agreement sanctioned the release of sterling to the extent of £7 million and at the same time Ceylon was able to retain, from her surplus dollar earnings, an independent reserve to be held by the Reserve Bank of Ceylon when created. This agreement was recognized in Ceylon as generous; indeed it involved the doubling of the release of sterling allowed in the previous agreement. In order to control Ceylon's foreign expenditure and increase home production, a cabinet committee was appointed on Aug. 22 to draw up a programme to keep imports within available exchange resources and implement the decisions to save dollars taken at the conference of Commonwealth finance ministers in London.

The budget presented on July 14 provided for reduced customs duties on a wide variety of articles and reduced income tax in the lower group of incomes. The minister of finance, J. R. Jayawardene, forecast an adverse balance of Rs.190 million (£14,250,000) and consequently measures of control to reduce the gap. A local loan of Rs.400 million was to be raised; but considerable foreign capital would be required for productive development. There was no intention of placing restrictions on the withdrawal of foreign capital investments; and profits earned by such investments could be remitted to the country of origin.

The contract for the construction of an irrigation project in the Galoya area designed to irrigate about 100,000 ac. of land in the eastern province was given to a U.S. firm by the government, the engineer in charge being a former member of the constructional staff of the Boulder Dam. The former financial secretary of Ceylon, H. J. Huxham, came out of retirement in England to become chairman of the Galoya Development board, under the authority of which the project would be carried out.

During the year Ceylon expanded her diplomatic relations with neighbouring countries, particularly Burma with which an interchange of ambassadors took place in acknowledgment of the close religious ties existing between the two countries as staunch adherents of Buddhism. Ceylon established relationships also with India, Pakistan and Japan. The British Ministry of Health granted 20 scholarships to Ceylon doctors to enable them to go to Britain for specialized study and training. The Sinhalese already had a high reputation in the medical profession and supplied doctors to such neighbouring countries as Malaya and India.

After an interval of 11 years, pearl fishing was resumed in Tambelegam bay, Trincomalee. Pearl fishing had been at one time an important industry in Ceylon but had dwindled away. A sugar expert was lent to the government of Ceylon by the government of India to advise on the proposed establishment of a sugar factory at Galoya where about 36,000 ac. had been earmarked to grow sugar cane. An ilmenite factory was to be set up at Pulmoddai, 40 mi. north of Trincomalee, at a site said to be one of the best in the world for ilmenite sands.

Work was begun on the restoration of the historic 2,000-year-old stupa, built on the spot from which Buddha is said to have preached on his visit to Ceylon 2,500 years ago. A new protective shelter for the colossal image of the Buddha at Avukana, among the finest of its kind in Asia, was to be provided by the Archæological department. The Colombo museum received from the university of Edinburgh, the skull of Kappetipola Dissawa, the leader of the Kandyan rebellion of 1818, who was executed after capture by the British forces

in that year. His skull had been removed to Britain and deposited in the anatomy department of Edinburgh university. (E. HD.)

Education. (1947) Schools: government and assisted 5,436, pupils 843,037; English 461, pupils 182,872; industrial 666. Institutions of higher education 2, students 2,969. Illiteracy (1948) 35%.

Agriculture. Main crops ('000 metric tons, 1948; 1949, six months, in brackets): tea 136 (70); rubber 96 (42), rice 251. Fresh coconuts (exports in thousands, 1948) 9,387. Livestock (in '000 head, 1946-47). cattle 1,116; sheep 55; pigs 85; goats 326; buffaloes 624. Fisheries: total catch (1946): 22,000 tons

Industry. Chief mineral product is graphite; exports ('000 metric tons, 1948) 14,000. Salt production amounts to about 30,000 tons a year.

Foreign Trade. (Million rupees) Imports· (1948) 994, (1949, six months) 566. Exports (1948) 1,011, (1949, six months) 493

Transport and Communications. Roads (1948): 10,242 mi. Licensed motor vehicles (Dec. 1948) cars 27,594, commercial vehicles 11,887. Railways (1948): 912 mi ; freight tons carried 1,270,800 Air transport (1948): passenger-mi 2,670,000; cargo, including mail, net ton-mi. 12,130. Wireless licences (1948) 24,616

Finance and Banking. (Million rupees) Budget· (1948-49 est) revenue 565 0, expenditure 532·6; (1949-50 est) revenue 563·7, expenditure 563·5. National debt (Sept. 30, 1947): 469. Note circulation (July 1949; in brackets, July 1948)· gross 301·5 (376·2), active 220·2 (217·6). Bank deposits (June 1949; in brackets, June 1948) 581·2 (612·1). Monetary unit: *rupee* with an exchange rate of 13·372 rupees to the pound.

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CHAD: *see* FRENCH UNION.

CHAMBERS OF COMMERCE. The vital problem of balancing the external trade account of the United Kingdom, and of closing its dollar deficit in particular, caused considerable attention to be given in 1949 by chambers of commerce to export trade problems. The Association of British Chambers of Commerce and its constituent chambers assisted in meeting the problems of overseas trade; in so doing they dealt with subjects involving national policy; *e.g.*, the liberalization of intra-European trade, the European Recovery programme and the international tariff negotiations conducted at Annecy, France, as well as with the difficulties of individual exporters and would-be exporters. The problem of trade with North America gave birth to two new organizations of business men, in both of which the Association of British Chambers of Commerce played a leading part. Discussions with the Canadian Chamber of Commerce led to the formation of the United Kingdom-Canada Trade committee. This body, sponsored by the Canadian Chamber and by the A.B.C.C., Federation of British Industries, National Union of Manufacturers and National Farmers' union, arranged to meet twice each year to review trade problems at the business level, concerning itself with United Kingdom imports from Canada as well as exports to that dominion. The second new body, the Dollar Exports board, was formed in May; the problem of increasing sales to dollar markets represented its broad terms of reference. The president of the A.B.C.C., John McLean, was appointed chairman of the United Kingdom section of the committee working with the Canadians; he was also appointed a member of the Dollar Exports board.

During 1949 the A.B.C.C. again advised the Board of Trade on the problem of frustrated exports. By the end of the year advice had been given on more than 4,000 applications, mostly concerning textiles, from firms wishing to sell on the home market goods originally made for overseas but for which a market had not been found.

Jointly with the F.B.I. and the N.U.M., the A.B.C.C. had new talks with the chancellor of the exchequer prior to the expiry on March 11 of the undertaking made in 1948 respecting the limitation of dividends. The chancellor accepted assurances given and did not introduce proposals to limit dividend distribution by statute. With regard to taxation the A.B.C.C. submitted recommendations to the chancellor for consideration before the budget.

The association considered that the chamber of commerce organization ought to issue its views on Britain's economic position and policy. Its statement dealt with the salient features in national policy; *e.g.*, high government expenditure and taxation and the need for incentives, and was submitted to the government. In the autumn the depreciation of the exchange rate of the pound created many new problems to be studied by chambers of commerce.

The association convened a conference of representatives from many blitzed cities and towns with reconstruction problems; this led to representations to the government on several important points and a committee was formed to keep matters under constant review. Recognizing the value to business men of expert guidance on the far-reaching and complex Town and Country Planning act, the association published a book on the act, entitled *Development and Compensation.* The association and its 100 chambers examined carefully all new parliamentary bills of interest to their members, and took steps to secure desirable changes. The Iron and Steel bill received meticulous examination from the point of view of manufacturers using steel.

The membership of chambers of commerce affiliated to the A.B C.C. again rose appreciably. Membership of home chambers passed the 60,000 mark and that of affiliated chambers in foreign countries exceeded 8,000. (A. R. K.)

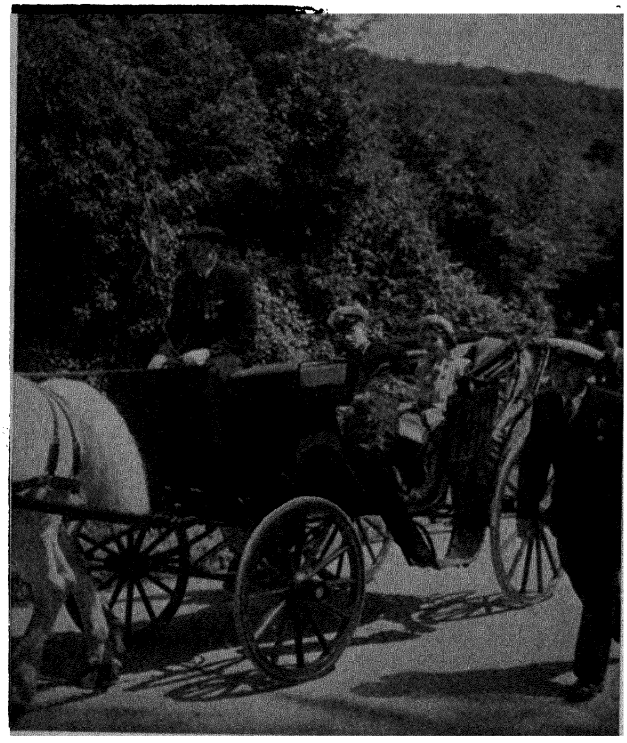
International. The International Chamber of Commerce held its biennial congress, attended by more than 500 delegates, in June 1949 in Quebec, Canada. The Quebec congress reviewed work done during the preceding two years by national committees working in conjunction with working committees of the chamber. Among the subjects to which the chamber had recently given special attention was the formation of a Code of Fair Treatment for Foreign Investments. The problem of foreign investments, especially in underdeveloped countries had received special attention after World War II and early in 1949 was emphasized in President Truman's Fourth Point, which was to encourage the investment of American capital in other countries, partly for world development and the general raising of standards of living and partly to counterbalance to some extent the American export surplus. On the basis that the first essential for the encouragement of foreign investments was to built assurances for security, for the unrestricted repatriation of dividends, for reasonable scope for development of the project and for the ultimate return of the capital in the currency of the lender, the International chamber's Code of Fair Treatment was drawn up, and it received much attention in the United Nations Economic and Social council and in the treasuries of a number of leading governments.

An important branch of the chamber's work was the furtherance of double taxation agreements, and a number of new agreements were concluded during 1949.

A part of the chamber's activity which attracted much attention was its work for the removal of barriers to trade and travel. Special study was given to this subject, which had great, though indirect, influence on the development of foreign trade. The chamber issued three brochures, one dealing with barriers to international travel, especially the simplification of arrangements for passports and visas and frontier formalities; another dealing with barriers to the transport of goods, covering consular invoices, transit manifests and the like and pressing for a reduction of the large number of documents required; and a third on invisible barriers to trade, dealing with standardization and simplification of customs procedure, agreed bases of *ad valorem* valuations, marks of origin and so on. (C. G. FE.)

CHANNEL ISLANDS. A group of islands in the English channel, of which the largest are Jersey, Guernsey, Alderney and Sark, forming part of the United Kingdom, but administered independently. Area: 75 sq. mi. Pop. (1946) 92,467. Capitals: Guernsey, St. Peter Port; Jersey, St. Helier. Lieutenant governor of Jersey, Lieutenant General Sir Arthur Grasett; lieutenant governor of Guernsey, Lieutenant General Sir Philip Neame.

In June 1949 the Duke and Duchess of Edinburgh, accompanied by the home secretary, James Chuter Ede, visited Alderney, Guernsey, Sark, where the Duke opened a new harbour, and Jersey.



Princess Elizabeth and Prince Philip, Duke of Edinburgh, at Sark, June 1949.

The 600 yr. old dispute between Great Britain and France concerning the Minquiers and the Ecrehos islands was considered in the Jersey States in March, and it was proposed that the dispute be referred to the International Court of Justice. Fear of the Colorado beetle caused the international executive committee on the Colorado beetle to visit Jersey.

During 1949 the Guernsey States and the Jersey States agreed to introduce national service for 18-year-old youths. The first States of Alderney was opened on Feb. 18 by the home secretary. In May it was decided to impose a landing tax on visitors, and on May 18 the first telephone exchange was opened. The meeting of the Sark Chief Pleas on Sept. 13 was notable when all elections for people's deputies since 1925 were declared to have been illegal. Alterations to the regulations were made in 1925, but under an Order in Council of June 20, 1922, these should have been submitted to the Privy Council. Elections for new deputies were held on Oct. 1. The committee of the Privy Council on the island of Alderney, which had been appointed in 1947, published its report in November. (X.)

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CHARLES (CHARLES - THÉODORE - HENRI - ANTOINE - MEINRAD DE SAXE-COBURG, COUNT OF FLANDERS), prince of Belgium (b. Brussels, Oct. 10, 1903), younger brother of King Leopold III (*q.v.*), was appointed regent by a joint vote of the parliamentary chambers on Sept. 20, 1944. (For his early life see *Britannica Book of the Year 1949.*)

In 1949, as in previous years, he was not often seen in public and his role was limited to helping in the formation of successive governments. On April 25, in Berne, King Leopold met his brother in the presence of Paul-Henri Spaak, the prime minister, and Henry Moreau de Melen, minister of justice, with a view to examining the "royal question."

CHARLOTTE (CHARLOTTE-ALDEGONDE-ELISE-MARIE-WILHELMINE), Grand Duchess of Luxembourg, Duchess of Nassau, princess of Bourbon-Parma, etc. (b. Berg castle, Luxembourg, Jan. 23, 1896), succeeded her sister Marie-Adelaide after her abdication on Jan. 15, 1919. On Nov. 6, 1919, the grand duchess married Prince Felix-Marie-Vincent of Bourbon-Parma. They had six children, the eldest being Grand Duke Jean (b. Berg castle, Jan. 5, 1921). On the invasion of Luxembourg by Germany on May 10, 1940, the grand duchess and her family moved with the government first to Paris and then to Lisbon. In August the grand duchess followed Joseph Bech (*q.v.*), minister of foreign affairs, to London, sending her family to Montreal. Grand Duke Jean, the heir apparent, joined the Irish Guards and landed in France with the Allied armies; and the prince consort became a brigadier in the British army. After the liberation of Luxembourg the grand duchess returned to the capital on April 14, 1945. The 30th anniversary of her reign was celebrated on Jan. 23, 1949, her birthday.

CHEESE: *see* DAIRY FARMING.

CHEMISTRY. Names of Elements. The International Union of Pure and Applied Chemistry, at its meeting in Amsterdam in Sept. 1949, recommended these names of elements:

Name	Symbol	Atomic Number	Name	Symbol	Atomic Number
Beryllium	Be	4	Astatine	At	85
Niobium	Nb	41	Francium	Fr	87
Technetium	Tc	43	Protactinium	Pa	91
Promethium	Pm	61	Neptunium	Np	93
Lutetium	Lu	71	Plutonium	Pu	94
Hafnium	Hf	72	Americum	Am	95
Wolfram	W	74	Curium	Cm	96

Astatine is the halogen beyond iodine, francium the alkali metal beyond cæsium, and promethium is the element in the group of rare earths which was originally called illinium. The recommendation of niobium to replace columbium and wolfram to replace tungsten represented the widest divergence from American usage, although the symbol W for tungsten had always been used.

Uranium. During 1949, work by Kurt Kraus, Frederick Nelson and Gordon Johnson of Oak Ridge National laboratory, Tennessee, dealt with the chemistry of pentavalent uranium (or uranium (II)) solutions. I. M. Kolthoff showed in 1945 that solutions of ordinary uranium (III) compounds could be reduced to uranium (II) at the dropping mercury electrode but he regarded the latter as a transient species which rapidly underwent disproportionation into the +4 and +6 oxidation states.

The Oak Ridge investigators found that solutions of uranium (II) compounds could be preserved without appreciable decomposition for considerable periods of time if maintained in the optimum stability range between pH 2 to 4 (mild acidic conditions). Electrolytic reduction of uranium (III) solutions was one method of obtaining uranium (II): $UO_2^{++} + e^- \rightarrow UO_2^+$. Chemical reducing agents were successful also. Zinc amalgam, for example, was found to

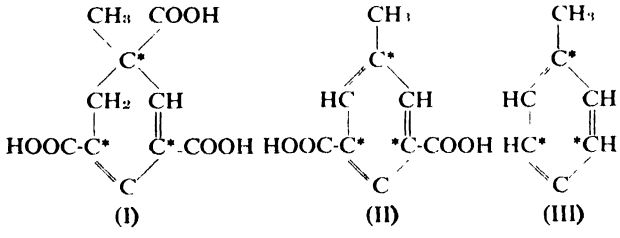
effect a rapid conversion of dilute uranyl chloride solution (UO_2Cl_2) into uranium (II), or UO_2Cl, in better than 50% yield. It was noted that with all methods of preparation, solutions of uranium (II) were frequently prepared which resisted disproportionation—into U (III)+U(I)—for a long time, then suddenly began to disporportionate rapidly. No conditions were found for the direct oxidation from the tetravalent to the pentavalent state. Oxidation of the pentavalent to the hexavalent state, however, occurred readily with a number of oxidizing agents, including atmospheric oxygen, ferric salts and ceric salts.

Instead of giving rise to uranium (II) on hydrolysis, uranium pentachloride initially yielded the I and III oxidation states; but at an acidity near pH 2 uranium (I) and uranium (III) reacted rapidly to yield appreciable concentrations of uranium (II).

Radioactive Carbon Compounds. Ordinary carbon is of atomic weight 12. Of the two isotopes C^{13} and C^{14} the latter is radioactive. In the past its availability had stimulated studies on the preparation of organic compounds containing it because tracer techniques had made it possible to follow the fate of radioactive compounds in chemical or metabolic processes.

In reporting a few syntheses involving radioactive carbon, radioactive barium carbonate, $BaC^{14}O_3$, is a convenient starting compound. Richard Abrams of the University of Chicago developed a method of converting it into hydrogen cyanide, $HC^{14}N$. The carbonate was mixed with lead chloride, from which carbon dioxide, $C^{11}O_2$, was readily liberated by direct heating, since the intermediate lead carbonate $PbC^{14}O_3$, decomposes at the low temperature of 315°C. The carbon dioxide was reduced to carbon (C^{14}) by reaction with red hot magnesium powder. After separation of magnesium compounds by means of hydrochloric acid, the carbon was then heated to 1000°C. in a quartz tube in a stream of ammonia gas, thereby producing radioactive hydrogen cyanide, which was collected in alkaline solution.

Toluene, with C^{14} atoms in position 1, 3, 5 of the benzene ring (*i.e.*, toluene-1, 3, 5-C_3^{14}), was synthesized in 62% yield by Dorothy Hughes and James Reid of the University of California, Berkeley, starting with radioactive pyruvic acid, $CH_3C^{14}OCOOH$, which was available. This acid was condensed, in the presence of alkali, to the tricarboxylic acid (I), and it in turn was dehydrogenated to toluenetricarboxylic acid uvitic acid), II, by hot sulphuric acid. Decarboxylation of II into the radioactive toluene (III)



was accomplished by heating with copper oxide in the presence of quinoline. C^{14} atoms in formulas I-III are designated with asterisks.

Radioactive carbon has a half-life of 5,673 to 5,767 years and by measuring the disintegrations per minute per gram (the "specific activity") of carbon obtained from very old samples of wood, W. F. Libby and his co-workers at the University of Chicago showed that this method was capable of establishing the age of such samples. Libby experimented with redwood whose tree rings dated it to between 1031 and 928 B.C. and with wood from the tomb of Zoser at Sakkara which dated back to between 2575-2725 B.C. The observed specific activities of the carbon obtained from samples of wood of known age were remarkably close to the values obtained from the half-life curve for radioactive carbon.

Cracking Catalysts. Catalytic cracking of petroleum hydro-carbons had assumed major industrial importance. Charles L. Thomas of Universal Oil Products company, Chicago, Illinois, presented the existing knowledge regarding this process, especially with regard to silica-alumina catalysts.

Silica alone is either inactive or only faintly catalytic. Alumina by itself is better than silica but is a poor cracking catalyst. The proper combination of silica and alumina gives rise to a superior cracking catalyst; but to make such a catalyst, it is necessary to start with the hydrogels or hydrous oxides of both silica and alumina. Mixtures of the anhydrous oxides are not catalytic nor are mixtures of one anhydrous oxide with one hydrous oxide. The silica-alumina catalyst apparently has certain acidic properties, and Thomas believed that it was this acidity that is responsible in large measure for the effective catalytic activity.

To assure the absence of inorganic materials other than silicon and aluminium, Thomas used ethyl orthosilicate and aluminium isopropoxide as sources of silica and alumina, respectively. Mixtures of these two substances in varying ratios were hydrolyzed by use of distilled water and alcohol. Acidity of the silica-alumina catalyst was determined by leaching it with an excess of dilute potassium hydroxide solution for one-half hour, then back-titrating the unused hydroxide with hydrochloric acid to a phenolphthalein end point. The maximum acidity was found for catalysts wherein the ratio of aluminium to silicon was 1, but high acidities persisted at a ratio of 2.

The maximum catalytic activity, as determined by passing Pennsylvania gas oil over the catalyst at 500°C. to obtain both gas and gasoline, was also at an Al to Si ratio of 1 to 2, but closer to 2. This proved that catalyst activity, acidity and composition were related in the silica-alumina catalysts, especially since they were prepared in such a way as to exclude the use of mineral acids.

It was suggested that the active constituent of this catalyst is $(HAlSiO_4)_x$. Since maximum activity was obtained at an Al:Si ratio of 2 whereas maximum acidity was reached at a ratio of 1, Thomas suggested that the catalyst mass behaved as if it were made up of an active part having an Al:Si ratio of 1 plus an inert silica support.

Silica-magnesia, silica-zirconia, alumina-boria and titania-boria catalysts were considered from the same viewpoint with the conclusions that $(H_2MgSiO_4)_x$, $(H_4ZrSi_2O_8)_x$, $(H_3AlB_2O_6)_x$ and $(H_2TiB_2O_6)$ should represent the formulas, respectively, for the catalytic parts of these combinations.

To illustrate the mechanism of catalytic cracking, one set of equations will be presented making use of di-isobutylene and the silica-alumina catalyst.

$$(CH_3)_3CCH_2C(CH_3)=CH_2 + HAlSiO_4 \longrightarrow (CH_3)_3C\overset{+}{C}H_2$$

$$(CH_3)_2 \text{ (A)} + (AlSiO_4)^- \text{ (A)} \longrightarrow (CH_3)_3\overset{+}{C} \text{ (B)} + CH_2=C(CH_3)_2 \text{ (D)}$$

Then the *tert*-butylion, (B), may react with di-isobutylene to form (A) and (D), thus causing a chain reaction, since (B) will be regenerated in the process; or (B) may react with $(AlSiO_4)^-$ to yield (D) plus the original catalyst.

B. S. Greensfelder, H. H. Voge and G. M. Good of Shell Development company, Emeryville, California, investigated the cracking of pure hydrocarbons both with and without catalysts. The ionic mechanism developed by Thomas was confirmed when acid-treated clays or silica-alumina catalysts were taken. When no catalysts were present, or when neutral

substances were present, a free radical mechanism was called for to explain the results. Activated carbon, a non-acidic catalyst, gave a unique product distribution which was explained as a quenched free radical type of pyrolysis. Activated pure alumina, with only weakly acidic properties, was found to induce primary pyrolysis corresponding to the free radical mechanism and secondary cracking in conformity with an ionic mechanism.

Oxidation of Hydrocarbons. Attention was also given in 1949 to the homogeneous, gas phase oxidation of lower hydrocarbons such as ethane, propane and isobutane by oxygen gas. This was the work of Frederick Rust, William Vaughn and others of Shell Development company. The reaction at 160°C. was found to be greatly modified by the presence of hydrogen bromide. Ethane chiefly gave rise to acetic acid, propane to acetone, and isobutane or other branched alkanes to stable peroxides.

Oxygen was believed to react first with the hydrogen bromide present to liberate a bromine atom, which then reacted with the hydrocarbon to form a radical: $R_3CH + Br \longrightarrow R_3C + HBr$. Oxygen than attached itself to the radical to form $R_3C\text{-}O\text{-}O\text{-}$, and this in turn reacted with hydrogen bromide to form the peroxide and bromine atom which perpetuated the operation: $R_3COO\text{-} + HBr \longrightarrow R_3C\text{-}O\text{-}O\text{-}H + Br$. The peroxide radical combines simultaneously with the alkyl radical, R_3C, to yield the symmetrical alkyl peroxide, $R_3C\text{-}O\text{-}O\text{-}CR_3$. The yields of organic peroxides in these experiments were high. Thus for every 100 moles of isobutane consumed, there were formed 14 moles of *t*-butyl hydrogen peroxide, 20 moles of di-*t*-butyl peroxide, and 31 moles of *t*-butyl alcohol. Between 64 and 73 moles of acetic acid were formed per 100 moles of ethane consumed in similar experiments with ethane conducted at 210-220°C.

Aldehydes. Studies on the conversion of thiophene into its aldehyde, 2-thenoic aldehyde, were carried on by two groups, namely, W. J. King and F. F. Nord of Fordham university and W. S. Emerson and T. M. Patrick, Jr., of Monsanto Chemical company, Dayton, Ohio. It will be recalled that thiophene became available by way of the high temperature reaction of butane and sulphur. One approach to the aldehyde was the reaction of thiophene, N-methyl-formanilide and phosphorus oxychloride. In another method, thiophene was first converted into 2-thenyl chloride by reaction with formaldehyde and hydrogen chloride. Hydrolysis to thenyl alcohol and oxidation with chromic acid at ice temperature completed the synthesis. The reactions of thenoic aldehyde greatly resembled those of benzaldehyde.

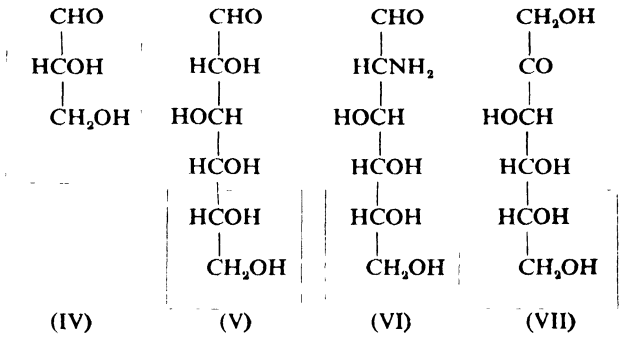
A related study was made by H. D. Hartough and J. J. Dickert, Jr., of Socony-Vacuum laboratories, Paulsboro, New Jersey, who used aminomethylation (with formaldehyde and ammonia) of thiophene as the approach to 2-thenoic aldehyde. The first substance formed is N-thenylformaldimine, $(C_4H_3S)\text{—}CH_2\text{—}N=CH_2$, or its dimer. It tautomerizes and hydrolyzes under conditions of mild acidity giving rise to 2-thenoic aldehyde in high yield.

V. Deulofeu and A. E. A. Mitta of Buenos Aires, prepared 4-imidazolecarbonal by direct oxidation of imidazolylcarbinol, the latter being made from fructose in the presence of ammoniacal cupric acetate and formaldehyde. Perhaps the most interesting reaction studied by these investigators, was the condensation with hydantoin leading, after hydrolysis to histidine, one of the essential amino acids in nutrition, formed on hydrolysis of proteins.

An ingenious synthesis of cyclopentenecarbonal was reported by James English, Jr., and G. W. Barber of Yale university. Catechol (or homologues of catechol) was hydrogenated to 1, 2-cyclo-hexanediol. Being a glycol, the the latter was cleaved by lead tetra-acetate to yield adipaldehyde. The best conditions found for the self-condensation of this dialdehyde were heating at 110°C. with water in a sealed tube for five hours. A 60% yield of 1-cyclohexenecarbonal was obtained.

Stereochemistry. Most naturally occurring carbohydrates and alpha amino acids are capable of turning the plane of polarized light when such light is passed through a solution of the substance. This is caused by the presence of one or more asymmetric if it holds four different atoms or groups. Obviously, if one of the four groups is fixed for reference, the other three groups are arranged either in clockwise or counterclockwise fashion. Both of these arrangements are realizable in practice. One of the isomers is called " D " and the other " L."

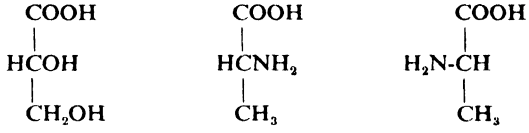
It was not a simple matter to relate the clockwise direction of different compounds but precise information was accumulated regarding most of the carbohydrates. Thus in D-glycerose (IV), D-glucose (V), D-glucosamine (VI), all showing (+) rotation of polarized light, and D-fructose (VII), of (—)



(IV) (V) (VI) (VII)

rotation, the atoms set off in a rectangle all show the same clockwise arrangement of H to OH to CH_2OH (if viewed from below). The term " D " refers to this structural feature.

D-glycerose is readily converted into D-glyceric acid of known structure (VIII). Natural (+)-rotatory alanine, being

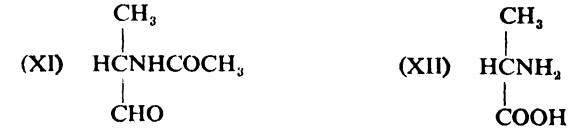


(VIII) (IX) (X)

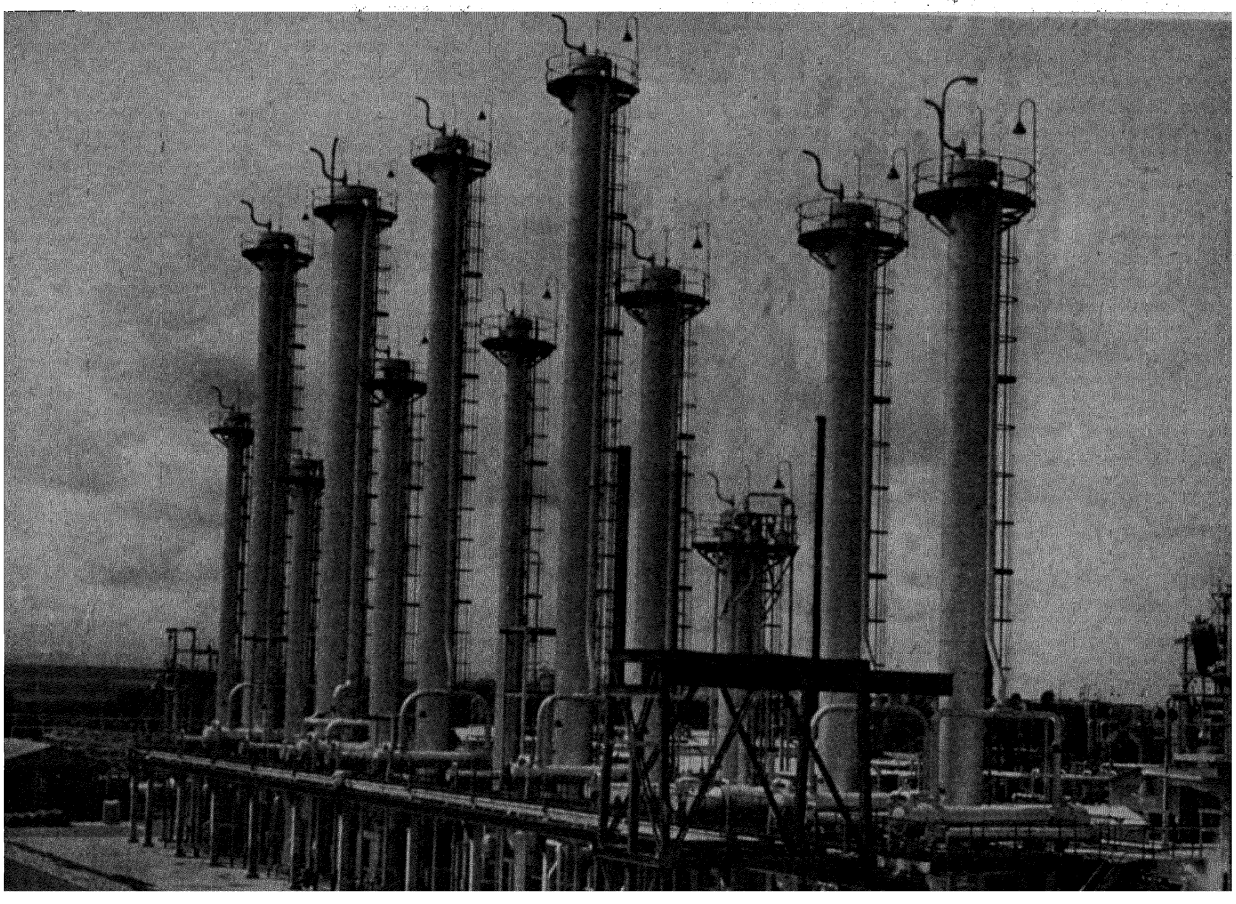
2-aminopropionic acid, could be either IX or X. M. L. Wolfrom, R. U. Lemieux and S. M. Olin of Ohio State university, presented a series of reactions correlating the structures of the hydroxy acid (VIII) and the amino acid (X).

The starting point was natural D-glucosamine (VI), obtained from chitin (in oyster shells) by hydrolysis. The top CHO group was converted to CH_3 by mercaptalation, acetylation and reduction with Raney nickel. Then, while the NH_2 group alone was acetylated (*i.e.*, $NHCOCH_3$), the bottom three carbons of the chain were cut off by means of lead tetra-acetate. Thus, VI changed to XI.

Oxidation of the aldehyde group to carboxyl and hydrolysis of the acetyl group yielded an alanine of structure XII.



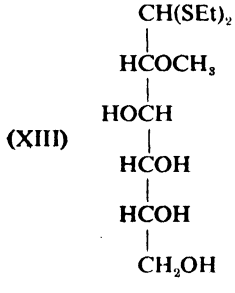
If this is turned through an angle of 180°, it is obvious that it is the same as X. The compound was (+) rotatory, the same as the L-alanine obtained from the hydrolysis of proteins.



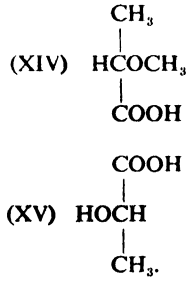
The new Shell chemical plant at Stanlow, near Chester, which was opened in 1949. The plant cost £4 million and the photograph shows the distillation, butadiene hydrogenation and polymerisation units.

Using a related experimental approach, Wolfrom, Lemieux and Olin started with the tetra-acetate of 2-methyl-D-glucose diethyl mercaptal (XIII), reduced the top $CH(SEt)_2$ group with

(XIII)



(XIV)



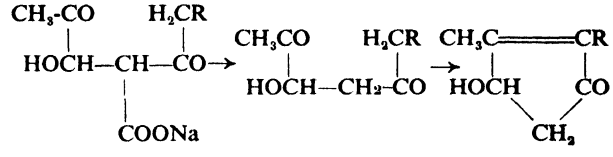
(XV)

Raney nickel to a CH_3 group, then removed the bottom three carbons with lead tetra-acetate and oxidized the resulting aldehyde to acid (XIV), which was the same compound as that produced by methylation of (+)-rotatory L-lactic acid (XV). It so happened that the configurations of both these compounds (glucose and lactic acid) were already established, but this new chemical method provided an added confirmation.

Synthesis of a Pyrethrum Insecticide. M. S. Schechter, N. Green and F. B. LaForge of the U.S. Bureau of Entomology and Plant Quarantine announced the successful synthesis of an active principle of pyrethrum. The natural source of this insecticide is the flower of pyrethrum (*Chrysanthemum cinerariæfolium*), mostly imported from Japan before 1940, but later chiefly from Kenya and the Belgian Congo.

H. Staudinger and L. Ruzicka studied the active component " pyrethrolone " in 1924. Twenty years later LaForge and W. F. Barthel established the fact that this supposedly homogeneous material was a mixture of two related hydroxy cyclopentenones. The name pyrethrolone was retained for the major component, and " cinerolone " was suggested as a name for the other. Pyrethrolone possesses a 2,4-pentadienyl side chain and cinerolone has an analogous 2-butenyl group.

The 1949 contribution of Schechter *et al.* was the synthesis of cinerolone from pyruvic aldehyde, CH_3COCHO (A), and a beta keto salt, RCH_2COCH_2COONa (B), in such a way as to establish the structure as 4-hydroxy-3-methyl-2-β-butenyl-2-cyclopentenine. It had been assumed earlier that the hydroxy group was at position 5. This synthesis may be followed from A+B in these steps:



This condensation proceeds in the presence of sodium hydroxide, the group R being $—CH_2CH=CHCH_3$.

The toxicity of the synthetic compound proved to be equal to that of the natural product. Also, the " knock-down " action was the same. It was believed that the commercial synthesis of this material might be anticipated, in view of the availability of the necessary basic materials, especially since the future of DDT for use on dairy cows was being questioned.

Chloromycetin. This compound, also called chloramphenicol, was isolated in 1948 from a soil organism, *Streptomyces venezuelæ*. It is an antibiotic which was shown to have a considerable spectrum of therapeutic activity against many pathogenic organisms.

Chemists at Parke, Davis and company (Mildred Rebstock, Harry Crooks, Jr., John Controulis) were successful not only in elucidating many of its chemical properties but also in developing a method of synthesis.

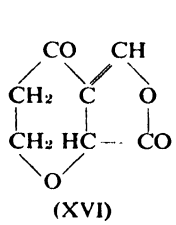
The empirical formula of chloromycetin is $C_{11}H_{12}Cl_2N_2O_5$ It is relatively stable, neutral, optically active, and melts at 150°C. It possesses a benzene ring, a nitro group and an amide function. The nitro group is most unusual, since in no other known natural product does such a group occur. The complete structure proved to be :

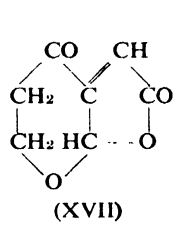
$$Cl_2CHCONH\text{-}CH(CH_2OH)\text{-}CHOH\text{-}C_6H_4NO_2.$$

In conformity with this structure, the compound hydrolyzes to yield dichloroacetic acid and an amine, $HOCH_2\text{-}CHNH_2\text{-}CHOH\text{-}C_6H_4NO_2$. Periodic acid cleaves this amine (but not the original chloromycetin) to yield *p*-nitrobenzaldehyde, as would be predicted from the structure assigned.

To synthesize the compound, the investigators started with benzaldehyde and 2-nitro-1-ethanol. The nitro group of the 1-phenyl-2-nitro-1, 3-propanediol, $C_6H_5CHOH\text{-}CHNO_2\text{-}CH_2OH$, thus produced, was hydrogenated to an amino group. By reaction with methyl dichloroacetate the amino group was converted to the desired amide. Then, after protecting the hydroxyl groups by acetylation, the benzene ring was nitrated. Deacetylation by mild alkaline conditions completed the synthesis. The compound was also synthesized differently, starting with *p*-nitroacetophenone.

Patulin. Patulin is a mould metabolite and antibiotic. Until recently, its structure was thought to be XVI. New


(XVI)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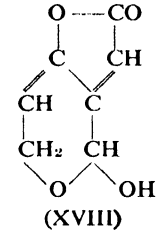
(XVIII)

evidence caused P. A. Plattner of Switzerland to reject this structure in favour of XVII. A still different structure, however, was proposed (XVIII) by R. B. Woodward and G. Singh of Harvard university and by H. J. Dauben, Jr., and F. L. Weisenborn of the University of Washington, Seattle. Infrared and ultra-violet spectra of patulin and its derivatives supported XVIII, as did the reaction of patulin with thionyl chloride. This is a reagent for the hydroxyl group, and the reaction did give rise to patulyl chloride wherein the OH group of XVIII was replaced by chlorine. (*See* also ATOMIC ENERGY; BIOCHEMISTRY; CHEMOTHERAPY; CHEMURGY; ELECTRONICS; FOOD RESEARCH.) (C. D. HU.)

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CHEMOTHERAPY. Among the more startling reports on medical advancements in 1949 were announcements that Compound E (cortisone), from the adrenal gland, and ACTH, from the pituitary gland, produced dramatic relief in some instances for people with rheumatoid arthritis. These substances also showed promise in the experimental control of rheumatic fever, allergies and even cancer. Only small amounts of the drugs could be obtained. Pituitary glands from 400,000 pigs were required to make one pound of ACTH. This was such an expensive process that the drug at one time, if sold, would have cost approximately $4,500,000 a pound. It seemed unlikely that unlimited quantities would be available for a long time; newer methods of production and synthetic substitutes were needed to provide a solution to the problem. The drugs could not be used carelessly. Undesirable reactions, for example mental changes, were produced at times, even when the drug was carefully administered. Other unwanted effects included the development of growth of hair and masculine features in women who were being treated.

Another new cure was widely promoted for the common cold. This treatment consisted of the administration of anti-histaminic substances—chemical compounds used for the control of certain allergic phenomena. While certain research findings offered sufficient promise to justify further trial of these drugs, the Council on Pharmacy and Chemistry of the American Medical association in view of the flamboyant wave of advertising in the U.S. that followed the announcement of these reports, issued a warning against expecting too much from the use of the substances and against the harmful possibilities that could follow their use. The council warned that instances had been reported of users of these drugs becoming drowsy and even falling asleep while at work and, in occasional cases, while driving cars or operating machinery. The council also warned that experience with these substances so far was insufficient to permit knowledge of whether they are harmless when used over long periods of time and that the amounts taken in persistent colds might exceed what had been established as normally safe.

A chemical related to the anti-histaminics was dramamine, which when tried as an anti-histaminic for allergy, was found to have far more therapeutic effectiveness when administered for motion sickness. After extensive trials, particularly on the U.S. army transport " General C. C. Ballou " in Nov. and Dec. 1948, dramamine was shown to be effective for the control, in the majority of instances, of motion sickness, on boats, in aircraft and in cars. Subsequent investigations during 1949 also revealed promise for the use of this drug in irradiation sickness, migraine headaches and nausea and vomiting in expectant mothers.

The usefulness of chloramphenicol (chloromycetin) for virus, rickettsial and other diseases was extended. Of importance, however, was its synthesis, which did not result in the development of a cheaper commercial method of production but did contribute to the knowledge necessary for the synthetic development of antibiotics. Another antibiotic, aureomycin, was reported effective against several diseases such as amœbic dysentery, shingles, whooping cough and, particularly, undulant fever.

The drug treatment of tuberculosis was advanced by further studies on para-aminosalicylic acid (PAS) and a new chemical from Germany known as tibione. Experimentally, a mould derived from hops was also shown to be active against typical germs in mice, but, unfortunately, caused damage to the kidneys.

The results of an extensive survey in the U.S. by the Therapeutic Trials committee of the Council on Pharmacy and Chemistry revealed that hormones in some instances might be used for the palliative treatment of patients with cancer, but these substances could not be regarded as cures. In some patients cancer progresses so far before it is detected that operation or irradiation with radium or X-rays is impracticable. In such instances, administration of hormones, androgens or estrogens (the so-called male and female sex

hormones) resulted in prolonging the lives of many of the patients treated and lessening pain. Sooner or later, however, the patients died; a drug cure for cancer still did not exist. Of related interest were further explorations on aminopterin for lymphatic leuchaemia, urethane for myeloid leuchaemia and nitrogen mustard for monocytic leuchaemia. These drugs also failed as cures but, on the other hand, when given to carefully selected patients, effected relief from symptoms and caused general improvement.

Antabuse (tetraethylthiuram disulphide) was reported to be an aid in the treatment of alcoholics. This chemical, long used in the rubber industry, produces intense vomiting when administered prior to the drinking of alcoholic beverages but does not seem to have any effect when alcohol is not taken. Apparently the vomiting is caused by the drugs interfering with an enzyme system which is concerned with the metabolism of alcohol. Use of this chemical for the treatment of alcoholics was first reported from Copenhagen, Denmark; it was being investigated in other countries during 1949. Its true role as a therapeutic agent awaited further evidence. It could produce dangerous effects if given carelessly and was never to be administered except when the receiver was under close medical supervision.

Myanesin (tolserol) was used to obtain relaxation of muscles and was also used in the treatment of alcoholic intoxication and anxiety states. Another treatment of alcoholics consisted of the use of pentothal, which produces a drugged state in which the patient can be questioned for the cause of his drinking.

Vitamin B_{12}, a member of the B complex group, had been found useful in combating certain anæmias. It was also reported to influence favourably school children who appear to exhibit growth failure. When administered by mouth to these children, it was reported to effect such a favourable response that one group of researchers suggested there might be a B_{12} functional deficiency. (*See* also PHARMACY.)

(A. E. SH.)

CHEMURGY (chemical utilization of farm products in industry). A compilation made during 1949 revealed that industrial utilization of agricultural materials in the United States had increased until the total value of farm products going into chemurgic uses considerably exceeded $1,000 million annually. A study released early in the year indicated that the total for the last year for which complete figures were available, 1947, had reached $1,187,525,000, and it was believed that, as a result of further expansion during the two subsequent years, the annual rate had probably exceeded $1,250 million.

Among the items included were oils and fats, $700 million; corn and other grains for wet milling and distillation, $219,600,000; wood pulp, $40 million, and cotton linters, $15,125,000, for making chemical grade cellulose; tobacco used for producing nicotine and salts, $2,500,000; dairy products for lactic acid, $15 million, for casein, $8 million, for lactose, $5 million, and other items; sugar-cane bagasse and molasses, $3,500,000; naval stores, $103 million. Other chemurgic products on the list were glycerol, $40 million; furfural, $4,500,000; lecithin (from soybeans), $1 million; sodium glutamate, $8 million; tanning extracts, $12 million; and about $10 million worth of other materials such as products from flax straw, wheat straw, corncobs, biological materials and numerous agricultural residues.

The Corn Products Refining company completed and began operating a 135 ac. plant during 1949 at Corpus Christi, Texas. When operating at capacity the factory would produce annually 100 million lb. of dextrose from milo, which is grown extensively in Texas, besides starch, oils, and 50,000 tons of livestock feed. Demand for dextrose was substantially increased during the year as the tyre manufacturers converted to the new cold rubber process, which utilized the corn sugar in large volume.

A new market for casein opened during 1949 which, it was thought, might consume more than $2 million worth annually. The casein was used in the production of curled casein, a synthetic fibre so treated as to possess the resiliency of horsehair. As casein sold at 94 cents a pound as compared with $1·25 and more a pound for Argentine horsehair, curled casein started in a favourable economic position. Its manufacturer, the Rubber-Set company, found an early market in an automotive air filter, a use involving a potential demand for 1 million lb. a year. Mattress and furniture manufacturers were expected to adopt the product, especially since the casein fibre was dependably clean and uniform.

Interest in the new crop field was greatly heightened during 1949 by the announcement that a cure for arthritis had been derived from an African plant of the *Strophanthus* species. The curative agent, known generally as cortisone, had first been extracted from ox bile. The process proved almost prohibitively expensive; and calculations indicated that all the cattle annually slaughtered could not provide enough of the raw material to treat the victims of rheumatic diseases. Discovery of the plant source resulted immediately in expeditions being dispatched, one by the U.S. government and one by private interests, to obtain seeds and cuttings of *Strophanthus* for study and for reproduction. Following the announcement, it was also revealed that closely similar compounds were obtainable from the Mexican yam and from the soybean. (*See* MEDICINE).

The exceptional interest created by the cure for arthritis stimulated curiosity as to the values which may be concealed in many other species of wild plants. It was pointed out that while the earth's flora includes about 300,000 species, only about 1,500 kinds had been put to human use. It was believed that vigorous plant exploration, coupled with the application of such new tools as organic chemistry, plant genetics and power equipment, might discover that many neglected species in the vegetable kingdom could be made valuable to man and could be made profitable agricultural commodities. Fewer than 200 species are cultivated commercially in the U.S.

Aromatic tobaccos of the Turkish types were grown extensively in the U.S. for the first time in 1949. More than 1,500 ac. were reported harvested in 16 mountainous counties in the western areas of the Carolinas and Virginia. This was a new crop, being a type of tobacco formerly imported, and only adapted to areas which up to 1949 grew no other kinds of tobacco. The crop returned a gross of $750 to $1,000 an acre to the farmer. The research was headed by F. R. Darkis of Duke university.

Although chemurgic studies have usually been undertaken to increase the nonfood markets of agriculture, the research programmes have led to new discoveries in the food field. One new principle of food preservation resulted in frozen concentrated orange juice, which during 1949 consumed about 10% of the Florida orange crop. A process called dehydrofreezing, which partially dried and then froze, promised to save space and weight in the storage and transportation of several kinds of fruits and vegetables.

(W. MCM.)

CHESS. The 24th congress at Hastings, Sussex, ended on Jan. 7, 1949. N. Rossolimo (France) won with 6½ points; I. König (Yugoslavia) was second with 6 points and W. J. Mühring (Netherlands) third with 5½ points. Two British players, B. H. Wood and W. A. Fairhurst were equal fourth. At the international congress at Southsea, Hampshire, in April, the "Swiss" system was used in a tournament in England for the first time. Except for the first round the



The 1949 German champion V. Bogoljubow playing simultaneously against 40 opponents at Darmstadt on Nov. 5, 1949.

pairing was not arranged; instead the leaders after each round were drawn together in the next round, with the proviso that no contestant should play another more than once. The contest was also won by Rossolimo with 9 points; second was L. Pachman (Czechoslovakia) with 8½ points.

The British championship at Felixstowe, Suffolk, was won by H. Golombek, and Eileen Tranmer won the ladies' championship. A radio match between London and Sydney resulted in a win for London with 6½ points to 3½. Oxford defeated Cambridge by 6 games to 1 and, having previously beaten London university by 7 games to 3, thus retained the championship of the Southern Universities' association.

The Soviet championship resulted in a tie between David Bronstein and Vasili Smyslov, each with 13 points out of 19. A match of six games started on Dec. 19 to decide the championship. A tournament for the women's championship of the world began in Moscow in December.

S. Tartakower (France) won the tournament at Beverwijk, Netherlands, in January. In Vienna the Schlechter Memorial tournament resulted in a tie between Jan Foltys (Czechoslovakia) and Stojan Puc (Yugoslavia). A match was played between teams of eight players representing Budapest and Moscow. The Moscow team won in Budapest by 38 points to 28, and in Moscow by 48½ points to 15½.

The German championship at Bad Pyrmont, Hanover, was won by V. Bogoljubow. W. Unzicker, German champion in 1948, won a tournament at Heidelberg. G. Stahlberg (Sweden) won a tournament at Trenčianske Teplice, Czechoslovakia, and at Venice L. Szabó won with 11½ points out of 15.

CHIANG KAI-SHEK, Chinese army officer and statesman (b. Fenghwa, Chekiang, Oct. 31, 1887), was president of the republic from 1928 to 1931, several times prime minister, generalissimo of the Chinese forces after the Japanese aggression (July 7, 1937) and again president of the republic from Sept. 1943. (For his career see *Encyclopædia Britannica* and *Britannica Book of the Year 1949*).

He " retired " on Jan. 21, 1949, from active service as president of China with the hope of ending the civil war. However, the Communists named him as the chief war criminal and principal tool of " American imperialism," and regarded his move as a trick. Despite Chiang's retirement his position as director-general of the Kuomintang and his personal influence over many of the Nationalist generals made him the authority behind the scenes. After the Communists had taken Nanking, Chiang appeared in threatened Shanghai on April 27 and again took an active part in the struggle. As the Nationalist capital moved from Nanking to Canton, Chungking, Chengtu and Taipei, Formosa, Chiang hurried between these points to rally anti-Communist forces. On July 16 a Supreme Policy council with Chiang as chairman and acting president Li Tsung-jen as deputy chairman was formed in Canton to direct the fight against the Communists. Chiang visited President Elpidio Quirino of the Philippines on July 10-11 and President Rhee Syngman (*q.v.*) of Korea on Aug. 6-7 in an attempt to form a Pacific union against communism. These efforts and his repeated bid for U.S. aid brought no favourable response from Washington. With acting president Li's departure for the United States late in the year, Chiang virtually exercised the authority of the presidency of the tottering National government.

CHICAGO. Second largest U.S. city, at the southwest corner of Lake Michigan, Chicago is the largest centre of U.S. rail and air traffic. Population of the city proper (1940 census): 3,396,808. The U.S. census bureau estimated the population of the city in May 1949 at 3,632,808 and the population of the entire metropolitan district at 5,395,524. Mayor, Martin H. Kennelly.

Chicago enjoyed a comparatively tranquil year in 1949 with business activity slowly declining. Bank clearings for the year dropped to $35,807 million from $38,886 million in 1948. Retail sales for 1949 were estimated at $4·200 million, or almost the same as in 1948. Except for the steel strike there was a marked decline in the number of industrial disputes and the number of workers involved. They were respectively 70 and 64,887 in 1949, compared with 506 and 218,948 in 1948. Passengers carried in the lines of the Chicago Transit authority declined, but the C.T.A. also ended its monthly deficits because of an increase in fares.

A modernized building code was adopted by the city council on Dec. 30 in the hope of stimulating private home building, in which Chicago had lagged far behind the country at large and far behind its own suburbs.

The 1950 budgets of the six governments that cover Chicago in the whole or in part were as follows: city of Chicago corporate fund, operating expenses only (excluding bond interest, pension fund, etc.) $81,337,584; Cook county $37,346,364; Chicago School board $111,784,314; Chicago Sanitary district $29,533,913; Chicago Park board $19,188,717; Cook County Forest preserve district, approximately $3,500,000. (L. H. L.)

CHIFLEY, JOSEPH BENEDICT, Australian statesman (b. Bathurst, New South Wales, Sept. 22, 1885), became prime minister and treasurer on July 13, 1945. (For his early career see *Britannica Book of the Year 1949*.)

In April 1949 he attended the Commonwealth prime ministers' conference in London where a formula was found whereby India could become a republic yet remain in the Commonwealth. He visited Paris on April 24 for talks with H. V. Evatt (*q.v.*), who was in Europe in connection with Australia's appeal to the Privy Council. He returned to Canberra on May 3 and a week later it was announced he was under observation for suspected smallpox. In June and August he presided over meetings of the state premiers. On Sept. 7 he presented his budget to the House of Representatives and announced that Australia would make a further gift of £A10 million to Britain. In August he visited South Australia and Western Australia and, before the general

election on Dec. 10, he undertook a nation-wide campaign tour. During the year he re-established a record of continuous service as a Labour prime minister, exceeding the period of service of John Curtin of 3 years 9 months. The general election on Dec. 10 resulted in a defeat for the Labour government and he was succeeded as prime minister by R. G. Menzies (*q.v.*) on Dec. 19.

CHILD LABOUR: *see* JUVENILE EMPLOYMENT.

CHILDREN'S BOOKS. The abolition of restrictions on the use of paper for books led to an increased output and an improvement in physical quality in Great Britain although some volumes fell short of a desired minimum standard in appearance, durability and content. Geoffrey Trease's *Tales out of School*, a critical appraisal of children's literature, stimulated interest in children's reading. *The Times Literary Supplement* devoted two sections exclusively to children's book reviews (July 15 and Oct. 21). The Library association Carnegie medal was awarded to Richard Armstrong for his *Sea Change*.

Several biographical works were issued, including *Swan of Denmark*, a sensitive study of Hans Anderson by Ruth Manning-Sanders; *Fortune my Foe*, a readable account of Raleigh by Geoffrey Trease and *Nelson the Sailor*, a critical portrait for older boys by Russell Grenfell. Evelyn Cheesman recounted her own experiences in *Camping Adventures in Cannibal Islands* and imaginary adventures of young castaways in *Marooned in Du-Bu Cove*. *The Story of Art* by E. H. Gombrich and *Our Bird Book* by Sidney Rogerson and Charles Tunnicliffe were amply illustrated. Practical advice was given in H. L. Heys' *Chemistry Experiments at Home*. *The Story of your Home* by Agnes Allen and *The Young Traveller in India and Pakistan* by Geoffrey Trease were pleasantly informative. *The Children's Theatre Book* by Cecile Walton was a vivacious introduction to stage technique. Arthur Stanley edited *The Bedside Book for Children*, a wide ranging anthology.

Additions to folklore included *The Essential Uncle Remus*, a wise selection of Brer Rabbit tales with the original illustrations; African stories in *Where the Leopard passes* by Geraldine Elliot and *Legends of the United Nations* by Frances Frost. *The Cat who went to Heaven* was a Chinese legend of unusual delicacy and charm by Elizabeth Coatsworth. H. M. McGill retold Perrault's *Tales of Long Ago;* Robert Lawson based his admirably illustrated *Robbut* on a well known legend and Eleanor Farjeon contributed original fairy stories in *The Old Nurse's Stocking Basket*.

There was rollicking fun and fantasy in Eric Linklater's *The Pirates in the Deep Green Sea* and Ian Serraillier's *Captain Bounsaboard and the Pirates;* sly humour and magic in J. R. R. Tolkein's *Farmer Giles of Ham* and animal characters in Hugh Lofting's *Doctor Dolittle and the Secret Lake*.

Among picture books of distinction were Edward Ardizzone's virile *Tim to the Rescue*, Kathleen Hale's gay and detailed *Orlando keeps a Dog* and *The Story of Noah*, told and drawn with deceptive simplicity by Clifford Webb.

Books for boys included P. H. Newby's *The Loot Runners*, an exceptionally polished tale of modern smugglers, and John Connell's *The Return of Long John Silver*, a worthy continuation of *Treasure Island*. David Severn introduced a supernatural element in *Dream Gold*. *Snow Dog* by Jim Elgard and *Saltwater Summer* by Roderick Haig-Brown were vigorous tales of North America.

Girls read Noel Streatfeild's portrayal of Hollywood in *The Painted Garden*, *Dusty's Windmill* by Kitty Barne, Elizabeth Goudge's lively and fanciful *Make Believe* and Kathleen Wallace's happy glimpse of a Chinese family in *Cross the Bridge and See*.

Modern social problems determined the plot of *A House of Their Own*, a convincing story by Martha Robinson and Tasmania formed the background to *They found a Cave*, an effective camping-out adventure by Nan Chauncy. Amateur sleuths were busy in *The "Polly Harris"* by Mary Treadgold and *The House on the Hill* by Elisabeth Kyle. Sailing was the main theme of *Kestrel* by Aubrey de Selincourt and there was originality in *The Voyage of the Indian Brig* by Winifred Holmes. Country life was depicted in *Winter at Pikey's Steep* by C. E. Roberts and *The Further Adventures of Farmer Jim* by C. H. Chapman, who also wrote *King Cuckoo*, an imaginative story of bird life.

Ancient Britain was the scene of exciting and sometimes violent adventures in *Kerin the Watcher* by Dorothy Severn and *Boadicea* by C. H. Abrahall and there was stirring intrigue in *The Young Jacobites* by Kenneth MacFarlane. In quieter vein, *The Great House* by Cynthia Harnett was a painstaking and satisfying story of life in the year 1690.

Life in other countries was skilfully blended into several stories for the under tens. New Zealand was pictured in *The Book of Wiremu* by Stella Morice; Lapland in *Somi builds a Church* by R. Busoni; Africa in *Blue Smoke* by Y. M. Robinson and French Martinique in *Simone and the Lilywhites* by Marie-Louise Ventteclaye. *Mimff in Charge* by H. J. Kaeser continued the adventures of a heroic small boy and there was irresistible humour in *My Friends the Beasts* by Allan K. Taylor. (D. D. C.)

United States. A distinctive contribution to folk literature was *A Harvest of World Folk Tales* edited by Milton Rugoff, while an unusual anthology was *My American Heritage* compiled by Ralph Henry and Lucile Pannell. Picture books gay with bright wash drawings were *Cocolo Comes to America* by Bettina and *Tim to the Rescue* by Edward Ardizzone. Two unusual picture books were *Little Boy Brown*, by Isobel Harris with drawings by Andre Francois, and *Henry—Fisherman* by Marcia Brown, a story of the Virgin Islands.

The mechanically minded read *Pogo's Sea Trip* by Josephine Norling, *The Truck Book* by Margaret and Stuart Otto and *The First Book of Automobiles* by Campbell Tatham; while *The First Book of Bugs* by Margaret Williamson also proved interesting.

Animal stories ran the gamut from *A Horse to Ride* by Grace Paull to *Vison the Mink* by John and Jean George; a story about turf racing was *Bobcat* by C. W. Anderson, while *Kalak of the Ice* (about bears) by Jim Kjelgaard was for junior high age.

For the middle group, *Treasure Mountain* (Oregon) by Evelyn Lampman and *Peter's Pinto* (Utah) by Mary and Conrad Buff proved interesting in their depiction of Indians and Mormons. Two stories laid in North Carolina were Ellis Credle's *Here Comes the Showboat* and Mebane Burgwyn's *Lucky Mischief;* Frieda Friedman in *A Sundae with Judy* wrote of New York city while René Prud'hommeaux dealt with adventure in the *Sunken Forest*. Historical stories were Frank Andrews' *For Charlemagne!* and *Two for the Show* (Shakespeare's England) by Isabelle Lawrence; Rebecca Caudill wrote of 18th century Kentucky in *Tree of Freedom*, while in *Midnight Patriot* Emma Patterson told of Revolutionary New York. The Fugitive Slave act was featured in *North Winds Blow Free* by Elizabeth Howard and the Civil War was the theme of Walter Edmonds' *Cadmus Henry*.

Stories of other countries were *Golden North* (Canada) by Marie McPhedran, *Ali of Baku* (near east) by Judith Shouisky and Ruth McGibeny, *Bush Holiday* (Australia) by Stephen Fennimore, *At the Palace Gates* (Peru) by Helen Parish and

The Runaway Apprentice (China) by Margery Evernden. Books about minority groups were Florence Means's *The House Under the Hill* (New Mexico) and Chesley Kahmann's *Gypsy Melody*. Older boys enjoyed a powerful story of big league baseball, *Hit and Run*, by Duane Decker; Mt. Rainier was the setting for *Escape on Skis* by Arthur Stapp, and Mars for Robert Heinlein's *Red Planet*.

The non-fiction harvest was rich. A beginning book on plant reproduction was *Bits that Grow Big* by Irma Webber. Electrical energy from earliest times was discussed in *The Bright Design* by Katherine Shippen and *Television Works Like This* by Jeanne and Robert Bendick answered many questions. Biography ranged from *George Washington* by Genevieve Foster to *The Youngest General* (Lafayette) by Fruma Gottschalk and the unbiased *The Story of Franklin D. Roosevelt* by Marcus Rosenblum. In poetry there was *Bridled with Rainbows*, edited by Sara and John Brewton, and *The Little Whistler* by Frances Frost. The Bible inspired *The Christmas Story* edited by Elizabeth Yates and *The Lord is my Shepherd* arranged by Nancy Barnhart.

(E. A. Gs.)

CHILD WELFARE. An encouraging beginning was made in Great Britain during 1949 to carry into effect some of the more urgent reforms for the care of deprived children, made possible by the passing of the Children act in 1948. Under this act an obligation was placed on local authorities to board out as many as possible of the children they had under their care unless not practicable or desirable to do so. They were also requested by the Home Office to place other children in small family groups and to use large institutions only for reception purposes or for short stay children who had a reasonable chance of returning to their parents or guardians. These suggestions led the local authorities to sort out, some for the first time, the long and short stay children and to give careful consideration to the needs of the individual child. Boarding out as a method of care, in spite of the great difficulty of finding suitable foster parents, was greatly extended and in some counties was doubled. Much progress was also made in securing properties suitable for small family groups of mixed ages and sex under the care of a house mother and father. About 100 new properties were bought and adapted as new children's homes in England and Wales.

An important requirement in the act was the appointment by each county council and county borough council of a children's officer of suitable qualifications and experience to be responsible for the happiness and welfare of each child under its care. One hundred and forty-one out of 146 authorities in England and Wales appointed these officers who included 89 women and 43 men and all the children's committees were set up. In Scotland 31 children's officers were appointed out of a total of 40-45 required.

During 1949 there was a satisfactory removal of large numbers of children from national assistance institutions to nurseries and children's homes in new premises or adapted houses. The Care of Children committee report estimated that there were 6,500 children living in public assistance institutions in England and Wales, but before and during 1949 this number was reduced to 1,000, priority being given to removing the nursery age child. In Scotland the number was reduced from 115 to 60.

Even before the act was finally passed it was realized that there would be a great need for trained staff, and urgent consideration was given by the Central Training council to the training of house mothers and fathers and boarding-out officers and to organizing refresher courses for the staff already working in local authority and voluntary residential homes for children. From the beginning of these courses 138 house mothers and fathers received a practical and theoretical training of 14 months and a similar number were in training: 160 boarding-out officers were also trained, and altogether 20 courses of different kinds were organized. Perhaps the most important were the refresher courses and the opportunity they offered to men and women from residential homes often working in remote parts of the country to come together to share experiences and to make friends, thereby losing the feeling of isolation. Apart from courses organized by Edinburgh and Glasgow universities in connection with the social science diploma or certificate, no training in child care was started in Scotland during 1949.

The act required every county authority to provide a temporary reception home for children with the necessary facilities for observation of their physical and mental condition. This observation and assessment of the needs of each child before permanent placement was vital, if each individual child was to have the opportunity to make a happy adjustment to life. The Home Office, guided by the advice of the Advisory Council on Child Care, sent a memorandum on this work to all local authorities during 1949. The experience gained in a pilot experimental reception centre in Kent demonstrated that these centres were an essential preliminary to a wise understanding of the needs of the children. This type of work makes heavy demands on the staff and it was found necessary in the Kent centre to appoint one resident adult to every three children. The visiting psychiatric team consisted of 1 psychiatrist, 2 part time psychologists, 1 full time psychiatric social worker and 1 full time secretary for a group of 25 children.

The voluntary homes and organizations which cared for a substantial number of deprived children showed their willingness to co-operate, although owing to restrictions in materials and staff much remained to be done to bring the standard up to that required by the act. Nine hundred and six voluntary homes were registered; one was closed by compulsory power and two were closed after the exercise of some persuasion.

The stubborn problem of juvenile delinquency (*q.v.*) engaged the attention of the country during 1949. Conferences organized by the government and many organizations failed to determine the root causes of this social unhappiness and strong pressure was brought, without success, to set up a special scientific commission. It was generally felt that greater effort should be made to provide more and better playgrounds for the school age child. The typical municipal playground of barren asphalt and costly apparatus failed to engage the enthusiasm of these high spirited and adventurous children, and strong arguments were advanced for providing playgrounds more suited to their needs where they could find materials such as earth, water, bricks, timber, and facilities for constructive play and real adventure. The government embargo on the development of new nursery schools (except for the children of mothers needed in industry) was also felt to be a short sighted policy for it was during the earliest years that foundations of good health and emotional stability were laid.

(M. An.)

International Services. In the Universal Declaration of Human Rights, approved Dec. 10, 1948, by the general assembly of the United Nations children as well as adults were usually included under the term "everyone," in the opening words of most of the 30 articles of the declaration. The interests of children were especially stressed in: "The family is the natural and fundamental group unit of society and is entitled to protection by society and the State." (Art. 16, Sec. 3) and "Motherhood and childhood are entitled to special care and assistance." (Art. 25, Sec. 2).

Material contributions to child health in many parts of the world were made in 1949 by the United Nations International Children's Emergency fund (U.N.I.C.E.F.), the

World Health organization (W.H.O.) and by various voluntary agencies such as the Red Cross in Scandinavian countries, the Co-operative for American Remittances to Europe, Incorporated, (C.A.R.E.) and the American Friends Service committee. Children in western Europe were helped by the European Recovery programme.

As in previous years the U.N.I.C.E.F. received some of its most generous support from small countries, both in government appropriations and in contributions from individuals. About two-thirds of the total of more than $141 million received during the two years, 1948 and 1949, in cash or pledges came from 36 governments, of which more than $70 million was from the U.S. on an equivalent basis. The U.S. provided 72% compared with 28% from other countries. The equivalent of $32 million of the United Nations Relief and Rehabilitation Administration fund's resources. The balance of more than $10 million was obtained from popular appeals in 40 countries. The work of the U.N.I.C.E.F. was not restricted by national boundaries as were many international services. It maintained programmes on both sides in China, and in 1949 operated freely in the four zones in Germany and Austria, and in the countries of central and eastern Europe.

The U.N.I.C.E.F. recognized that in parts of Asia tuberculosis among children was more than twice as prevalent as in western countries and that malaria, syphilis and yaws presented acute health problems. Consequently the programme in the east consisted mostly of supplying medicines and equipment and training local personnel in the control of specific child welfare problems. In Europe and north Africa much progress was made in the world-wide campaign to test 100 million children for tuberculosis. In those areas the work was sponsored also by the W.H.O. and the Red Cross from Scandinavian countries. In three years 18,500,000 children and young adults were tested for tuberculosis and 8,500,000 whose tests were positive were vaccinated against this disease with Bacillus-Calmette Guérin (BCG) serum. U.N.I.C.E.F. programmes were approved in 16 of the smaller countries in Central and South America.

Conferences which continued international consideration of child welfare problems begun since World War II included the second Pan American Congress of Social Work, Rio de Janeiro, Brazil, July 2-9; the second Pan American Congress on Pediatrics, Mexico City, Mexico, Nov. 2-5; and the second International Congress for the Education of Maladjusted Children, Amsterdam, Netherlands, July 18-22.

National Developments. Activities sponsored by the government of India on behalf of children included a continuation of the All India Conference of Social Work, with its second annual session in Madras, Dec. 18-22, 1948. The Indian Parliament enacted laws raising the marriageable age of girls from 14 to 15 years.

Poland, like most of the other countries of Europe, made marked progress in services affecting child health. The Ministry of Health reported a decrease in infant mortality from 26·9% in 1945 to 13·3% in 1946 and 9·7% in 1947.

Uruguay developed a unified health and welfare service, the Council of the Child, a branch of a children's code enacted in 1934. The importance of keeping mother and child together and of allowing aid to the mother who had difficulty in supporting her child was emphasized; this help was also available to unmarried mothers. The care of dependent children in foster homes was also extended under the new services.

In the United States recent population increases led to the overtaxing of schools, hospitals and other facilities essential to the welfare of children and increased the need for nurses, physicians, social workers and teachers. The shortage of nurses was apparent, when many hospitals remained inadequately staffed during the severe epidemic of poliomyelitis.

A three-year nation-wide study of child health services, completed in 1949 by the American Academy of Pediatrics, was made with the assistance of other agencies, notably the Children's bureau and the Public Health service of the Federal Security agency. A two-volume report of this study, published by the Commonwealth fund, gave a comprehensive appraisal of health services, stressing two over-all needs: the inadequacy of the general practitioner's training in pediatrics and the scarcity of health services for children in rural areas.

There was little change in the child labour situation, and more than 2 million young people of 14 to 17 years of age were being employed. Federal regulation of child labour, in effect for ten years under the Fair Labour Standards act, had resulted in the reduction of much harmful employment of children. Inadequate state laws still allowed the employment of many who should be attending elementary schools. (*See* also JUVENILE DELINQUENCY; JUVENILE EMPLOYMENT.)

(H. W. HK.)

CHILE. A republic occupying the Pacific coast of South America for about 2,600 mi. and having an average width of only 110 mi. Area, 286,323 sq. mi. Pop. (mid-1949 est): 5,709,000. Out of 25 provinces the most populated are the four central ones (Valparaíso, Santiago, Colchagua and O'Higgins): covering only under one-twentieth of the country area they have more than one-third of its total population. The racial composition, largely of European origin, includes *mestizos* (15%) and Indians (4 2%). The latter, numbering 231,700, are of three branches: the Fuegians, who live in or near Tierra del Fuego; the Araucarians in the valleys or on the western slopes of the Andes; and the Changos, who inhabit the northern coastal region. The capital is Santiago (pop , including suburbs, Dec. 1946 est., 1,046,857). Other major towns (pop., 1946 est.): Valparaíso (198,068); Viña del Mar (85,725); Concepción (84,953); Antofagasta (47,326); Talca (44,859). Language; Spanish. Roman Catholicism is the dominant religion. President: Gabriel González Videla (*q.v.*).

History. During 1949 Chile re-affirmed its belief in democratic principles, made efficient attempts to solve its economic crisis and resisted Communist encroachments. Early in the year its relations with Venezuela became strained because it brought before the consideration of the Organization of American States the unwillingness of the military junta to allow ex-president Rómulo Betancourt, who had taken refuge in the Colombian embassy, to leave the country.

Late in January the government gave up its power to discharge Communists from public office and freed more than 700 imprisoned Communists. In the elections held in March, the first in which women voted, González Videla won a two-thirds majority in both houses of congress. Communist deputies were reduced from 15 to 6, and out of their 5 senators they retained 2 not yet due for re-election.

In his message to congress in May, President González announced that technicians were working on data for a vast irrigation project for the semi-arid valley between rich agricultural central Chile and the northern nitrate desert. He also announced that the year 1948 ended with a budget surplus of more than $18 million and that the Anaconda Copper corporation would spend more than $130 million in new processing and mining facilities.

The drop in price of copper, however, from 23 to 16 cents a pound about three years before the government had anticipated it and had been able to finish its industrialization and development plans, plus a proposed two cents tax by the U.S. on copper imports, seriously affected the country's economy. The current price was four cents less than was

required to cover costs and the creation of a government corporation to sell copper was advocated. Small Chilean-owned mines wanted to close down, but 96% of the copper-production industry was American-controlled and some other solution was needed. Alberto Baltra, minister of economy and commerce, visited the U.S. to seek a solution and urged Trygve Lie that a United Nations economic commission for Latin America be set up to make studies to carry out President Harry S. Truman's Point-Four programme in Chile.

Demonstrations in the copper mines, which González Videla said had been "synchronized" to the Bolivian unrest by anti-democratic forces, caused the death of 1 soldier and the wounding of 26 other persons.

In mid-August martial law was declared to cope with the widespread disorders into which the Communists had turned the rioting initiated by university students protesting against a small increase in bus fares in Santiago. The transport strike was followed by disorders in the mining areas and a railway and bank strike. The navy was sent to protect the mines and the arrest of Communist leaders, including Humberto Abarca, former member of the Chamber of Deputies, ended the disorder. Three hundred and twenty-eight government employees were dropped as Communist sympathizers. After the disorders, foreign minister German Riesco Errázuriz, agriculture minister Victor Opaso Cousiño, public health minister Guillermo Varas Contreras and labour minister Luis Felipe Letelier resigned, but González Videla, who had emerged from the crisis with great prestige, refused to accept their resignations.

To meet the economic crisis the government decreed strict budget economy, obtained a $25 million Export-Import Bank loan and, as from Oct. 1, upon the recommendation of the International Monetary fund, proposed to devalue the peso from about 43 to 65 to the dollar. (On Jan. 10, 1950, the I.M.F. approved a rate of 60 pesos to the dollar). The dollar shortage and inflation still constituted serious problems, and finance minister Jorge Alessandri expressed grave concern over their solution. (J. McA.)

Education. Schools (1945): public primary, pupils 452,826, teachers 14,269, private primary, pupils 93,185; secondary, pupils 55,000. There are three universities, including the Catholic university of Santiago. Illiteracy (1940): 28·2%.

Agriculture. Main crops ('000 metric tons, 1948): wheat 1,041; barley 86; oats 81, rye 5; maize 71; rice 83; hemp fibre 4 9; potatoes 519; sunflower seed 50. Livestock ('000 head). cattle (April 1948) 2,310; sheep (June 1948) 6,432; pigs (June 1948) 585, horses (June 1948) 523, chickens (1946-47) 2,200 Fisheries· total catch (1946). 61,000 metric tons. Production of wool (1948-49, greasy basis): 16,000 metric tons.

Industry. Fuel and power (1948, 1949, six months, in brackets): coal ('000 metric tons) 2,234 (992), manufactured gas (million cu metres) 142 8 (66·1); electricity (million kwh.) 1,167 (622). Raw materials ('000 metric tons 1948; 1949, six months, in brackets): pig iron 14 4 (9·7); copper 425 (201), iron ore (60% metal content) 2,712 (1,487); nitrate of soda 1,754; gold (fine ounces) 164,254; silver (fine ounces) 861,942. Chile is the leading mineral-producing country in South America.

Foreign Trade. (Million pesos) Imports (1948) 1,303, (1949, six months) 686; exports (1948) 1,596, (1949, six months) 828. Leading customers (1948) U.S. (53%), U K (8%). Leading suppliers: U.S. (42%), Peru (13%), Argentina (10%)

Transport and Communications Roads (1945) 29,921 mi. Licensed motor vehicles (Dec. 1948): cars 36,770, buses 4,132, lorries 27,580. Railways (1948)· 5,200 mi ; passenger-mi., 938 million; gross freight ton-mi., 1,432 million. Shipping (July 1948) vessels (of 100 tons and upwards) 97, total tonnage 190,313. Air transport (1948): passenger-mi. flown 37·6 million; freight net ton-mi. flown 513,000. Telephones (1948): in use 119,500.

Finance and Banking. (Million pesos) Budget· (1949) revenue 13,952·2, expenditure 13,035 4; (1950 est) revenue 14,264·6, expenditure 14,264·5. Total direct debt (Dec. 31, 1947) 7,661 plus guarantees of 1,767. Currency circulation (Sept. 1949; in brackets Sept. 1948)· 4,633 (3,843). Bank deposits (Aug. 1949; in brackets Aug. 1948): 10,175 (9,089). Gold reserve (Sept. 1949) U.S. $43·3 million. Monetary unit: *peso* with exchange rates: before the British devaluation, £1=124·93 pesos; after Sept. 18, 1949, £1=86·80.

CHINA. The most populated and second largest country of the world, China is a republic in Asia bounded on the N.E., N. and N.W. by the U.S.S.R., on the W. by Afghanistan, on the S.W. and S. by India, and on the S. by Nepal, Bhutan, Burma and Indo-China. The table below shows how the total area of 3,876,956 sq. mi. is composed, and the distribution of population:

	Area (in sq. mi.)	*Population*
China proper (18 provinces)	1,444,626	409,136,900 (1936 est.)
Western China (Sinkiang, Chinghai and Sikang) .	1,118,323	6,524,300 (1936 est.)
Inner Mongolia . .	326,285	5,142,800 (1936 est.)
Manchuria (Manchukuo).	503,127	43,234,000 (1940 census)
Formosa (Taiwan) (*q.v.*) .	13,857	5,872,000 (1940 census)
Kwantung (including Port Arthur) . . .	1,444	1,750,000 (1938 est.)
Tibet (*q.v.*) . . .	469,294	3,000,000 (1948 est.)
Totals . .	3,876,956	474,660,000

According to the official figures of June 1948 the total population of China was estimated at 463,493,000; the difference being accounted for by war losses among the civil population. Language: Chinese, with a number of dialects, the most important being the Mandarin (or *Kuanhua*) which dominates nearly four-fifths of China proper. Religions: Confucianism, Taoism and Buddhism; about 10% of the population is Moslem; there are also Chinese Christians of various denominations. Chief towns (pop., 1948 est.): Shanghai (4,630,385); Tientsin (1,772,840); Peiping or Peking (1,721,546); Canton (1,128,165); Nanking (1,113,972); Mukden (1,021,057); Chungking (985,673); Tsingtao (850,308); Harbin (760,000); Hankow (721,598); Sian (628,449); Dairen, under Soviet occupation (543,690). During the year China had two governments: (1) the Nationalist, headed by Chiang Kai-Shek (*q.v.*), which in 1949 sat respectively in five capitals (Nanking, Canton, Chungking, Chengtu and Taipei) and had three prime ministers: Dr. Sun Fo, General Ho Ying-chin (from March 12) and Marshal Yen Hsi-shan (from June 3); (2) the Communist, formed in Peking on Oct. 1, with Mao Tse-tung (*q.v.*) as president of the republic (chairman of the central people's government council) and Chou En-lai (*q.v.*) as prime minister (chairman of the state administrative council) and minister of foreign affairs.

History. The year 1949 saw the complete collapse of the Kuomintang government and the Communists virtually in control of all China. Between January and November their captures ranged from Tientsin and Peking to Canton and, by early December, had entered the Kuomintang's last capital, Chungking. This amazing success was due less to the admittedly high ability of the Communist generals and troops than to China's weariness of Kuomintang misrule. General after general with hundreds of thousands of troops went over to the Communists. Fu Tso-yi, the best Nationalist general, surrendered Tientsin and Peking without firing a shot, and on Oct. 20 he was appointed minister of water economy in the Communist government.

On Jan. 21 Generalissimo Chiang Kai-shek announced his withdrawal from the Nanking government, in order to facilitate peace negotiations, and General Li Tsung-jen (*q.v.*), a well known Liberal, became acting president. A peace delegation was sent to Peking early in April, but the discussions were cut off on the 17th by a Communist ultimatum demanding virtual unconditional surrender within three days. The last remnants of the Nationalist government fled to Canton on April 23 and next day the Communists entered Nanking.

This stage was marked by an unfortunate clash with Great Britain when, on April 20, H.M.S. "Amethyst," *en route* to Nanking with supplies, was heavily fired on and disabled



by Communist batteries: 13 officers, including her captain Lieutenant Commander B. M. Skinner, were killed and 15 wounded. Medical relief was sent by air but attempts by H.M.S. " London," " Black Swan " and " Consort " to tow her out failed, the ships being badly damaged. The total casualties in the four ships were 44 dead and more than 80 wounded. All attempts to negotiate the " Amethyst's " release failed. Finally on the night of July 30, repairs having been improvised by the crew, Lieutenant Commander J. S. Kerans, who had been put in command, decided to make a dash for it, and in pitch darkness brought her 140 mi. down the river to the open sea and eventually to Hongkong. The exploit by all concerned was in accord with the highest traditions of the Navy.

After Nanking the Communists advanced in a double sweep by Hangchow and Soochow upon Shanghai which they entered on May 25. Another army captured Hankow on May 16. The provinces of Kiangsi and Hunan were occupied by early in August; on the coast Foochow fell on Aug. 17 (a day after the surrender of Canton), Amoy on Oct. 17, Swatow on Oct. 21. The last good Nationalist army under Pai Chung-hsi, the minister of defence, which had been expected to hold the border of Kwangtung, retired into Kwangsi and the Kuomintang government fled to Chungking. Meanwhile other Communist armies, between Aug. 26 and Sept. 23, successfully overran the vast northwestern provinces of Kansu, Ninghsia and Chinghai, the local Moslems, who had been expected to fight, making no resistance.

After the fall of Nanking it became clear that Chiang Kai-shek's retirement in January was more one of form than reality. He had withdrawn the government's treasure, troops believed to number 400,000, and the bulk of the navy and air force to Formosa as a base to carry on the war and in June the government at Canton announced a blockade of the China coast to begin on the 25th. The Blue Funnel liner " Anchises " at Shanghai had already thrice been bombed and had to be beached though she was eventually got away to Japan. The British and U.S. governments refused to recognize the blockade; but nothing was done to protect ships going to or from Shanghai except outside territorial waters. Several ships were fired on or taken to the Chusan islands and held for varying periods. An attempt to blockade Tientsin was defeated by the Communists seizing the Nationalists' island bases in the gulf of Chihli. But at Shanghai the foreign merchants, already badly hit by the Communists' taxation, suffered enormous losses.

In July Chiang visited President E. Quirino of the Philippines and in August President Syngman Rhee of Korea in a fruitless effort to work up a defensive Pacific pact against the Communists; and during the autumn he was ceaselessly on the move between Formosa, Canton and Chungking. Relations between him and acting president Li Tsung-jên had always been bad and on Oct. 21 Li retired to Hongkong, Chiang apparently resuming the presidency.

On Oct. 1 the People's Republic of China was proclaimed at Peking (which under its old name again became the capital) with an elaborate constitution adopted by the People's Political Consultative conference of 636 delegates from 45 associations. Several of these were not Communist, a fact stressed by the Communists as evidence of the new government's truly democratic nature. At the head of this organization was the central people's government council with Mao Tse-tung as chairman and General Chu Teh (*q.v.*) as one of the six deputy chairmen; then the state administrative council with Chou En-lai as prime minister and minister of foreign affairs; then the People's Political Consultative conference to act as a consultative body until a National Congress could be elected by universal suffrage. The U.S.S.R. instantly recognized the new government (as did all her eight satellites), and exchanged ambassadors with it besides sending 200 technical experts for its assistance. A conference of Asian and Australasian trade unions, assembled in Peking in November, under the chairmanship of Liu Shao-chi, member of the Politburo of the Chinese Communist party, indicated that Communist China would throw all her weight, morally at least, behind the Communist movement in southeast Asia.

On Oct. 2 Chou En-lai issued a general invitation to the powers to recognize Communist China " on equal terms." This question was keenly discussed in the autumn. It was agreed by all that the good behaviour of the Red troops could not be bettered, that the Communists' administration was clean and more capable than the Kuomintang's, and they had repeatedly promised full respect for foreign rights.

An interesting feature of their proclamations was that whenever necessary and possible " patriotic capitalists " should be tolerated and allowed their profits to encourage them to use their brains for China's benefit.



The main entrance to the city of Peking decorated with portraits of Mao Tse-tung (right) and General Chu Teh, at the time of the Chinese people's political consultative conference which met in Peking, Sept. 1949.

Foreign business-men in China and missionaries were urgent for early recognition in order to keep touch with the Chinese people and not to drive them deeper into Soviet arms. But on Nov. 16 Ernest Bevin indicated in the House of Commons his preference for " acting together with the Commonwealth and other friendly governments." No British consuls, however, were withdrawn from China and the ambassador himself only left " on home leave " at the end of October, while British merchants were encouraged to stay for the maintenance of Britain's large interests in China.

After the publication on Aug. 5 of Dean Acheson's white paper on the United States' failure either to support the Kuomintang or bring about peace, U.S. policy in China seemed to be in a vacuum. All its representatives were withdrawn; the last of them, A. Ward consul at Mukden, was arrested on Oct. 29 on a charge of beating a coolie.

On Nov. 28 the Chinese delegate in the United Nations general assembly moved for non-recognition of Peking and condemnation of Soviet interference. The assembly, however, adopted for discussion a much more non-committal resolution.

Early in the year the British government devoted itself to building up Hongkong's defences against possible attack and by the autumn these had been raised to 25,000 troops and a considerable fleet and air force. The ancient Portuguese colony of Macao increased its garrison to 6,000. No incidents, however, were reported at the end of the year, during which Hongkong had developed a considerable barter trade with the Communist areas.

On Dec. 8 the Chinese government, by now consisting of only three or four ministers, announced its removal from Chengtu in Szechuan (to which it had retreated from Chungking) to Taipei in Formosa. On Dec. 11 General Lu Han, governor of Yunnan, joined the Communists, thus opening the way for them, *via* the famous Burma road, to the centre of the Burmese Communist rebels. The island of Hainan in the Gulf of Tongking was still held, but in China no vestige of Nationalist government remained. On Dec. 19 the Formosa government announced that the mouth of the Yangtze was being mined and ships were warned against trying to break the blockade of Shanghai. The " Flying Arrow," a U.S. ship, in trying to do so was heavily shelled and rendered incapable.

On Dec. 29 President Truman was reported to have decided to send military advisers to stiffen the morale of the troops in Formosa and save it from the Communists. This unexpected departure from the general policy agreed upon between Acheson and Bevin in September was apparently due to pressure by the Republican leaders and the effect on the strongly anti-Communist feeling in the United States if Chiang Kai-shek were not helped. But the Republicans overplayed their hand and a week later Truman stated positively that no advisers were to be sent. At the same time, however, some joint Anglo-American plan for building up southeast Asia as a stronghold against Communism was forecast and Acheson stated that the U.S. had no intention of recognizing the Chinese Communists for the present.

These uncertainties of American policy in Formosa (which naturally drew a blast of vituperation from Peking) caused some confusion in London, the British government having eventually decided, before Christmas, to recognize the Communists. The unanimous recommendation of British far eastern ambassadors and administrators at the Singapore conference clinched the matter. The recognition was announced on Jan. 6, 1950, and India, Pakistan and Ceylon recognized the Chinese government about the same time. The Commonwealth was thus split on the subject, as Canada, Australia and New Zealand decided to wait. The

Communists' reply was far from gracious and was accompanied in each case by an invitation to " send a representative to Peking to conduct talks on the whole matter." The meaning of this phrase excited a good deal of speculation as to what conditions the Communists might try to impose for exchanging diplomatic representatives.

That the fanatical pro-Soviet group was predominant in Peking was clear. Mao Tse-tung visited Moscow for Stalin's birthday on Dec. 21 and was to stay there for some weeks, presumably to discuss the Soviet Union's position in Manchuria on which its recovery of the railway and chief ports through the Yalta agreement had given it a powerful grip.

There were, however, signs that the Communists were not free from trouble. The autumn harvests in north China were bad and shortage of food was accentuated by the Soviet Union's demand for grain in payment for various supplies it had promised to Manchuria. Peasant risings against high taxation and living costs and shortage of consumer goods in Anhui and south Manchuria had, on the Communists' admission, given some trouble. Serious inflation had set in: the People's bank dollar, fixed at 900 to the £ when the Communists took Shanghai, had fallen to 24,000 by December. In south China all business was done in Hongkong dollars, the market rate for which was about PB$8,000 to HK$1, against the official rate of PB$600. These facts indicated the Communists' want both of treasure and foreign exchange. (O. M. G.)

Education. Primary schools (1946): pupils 23,913,705. Secondary schools (1947). 6,346, pupils 2,055,441. Institutions of higher education (1947) 207, students 148,844. Illiteracy (1945) 51·1%

Agriculture. (China proper) Main crops (1948, in '000 metric tons): wheat 25,582; barley 7,428; oats 795; maize 7,467; potatoes 1,952; rice (1948-49) 46,524; cotton (ginned) 459, tobacco 659, kaoliang 6,101; millet 6,156; sugar (raw value) 360, cottonseed 1,020; rapeseed 3,704; groundnuts 3,004, dry peas 2,992, soya beans 6,043; tea about 300 million lb. Livestock (1948, in '000 head): cattle 18,200; sheep 10,450; pigs 59,510, horses 2,023; chickens 209,335; goats 13,976; ducks 44,106; oxen 18,200; buffaloes 9,460 Oil production from vegetable oilseeds (1948). 3,202,354 metric tons.

Industry. Fuel and power (1948): coal (in '000 metric tons) 13,800; natural gas (in '000 cu ft, 11 months only) 1,344,068, electricity (in million kwh) 2,860. Raw materials (1948, in '000 metric tons). iron ore 158; tin-in-ore 4 9, pig iron 11, steel (ingot and crude) 44. Manufactured goods (1948, in '000 metric tons): cotton yarn 336; cotton fabrics 860; cement 550.

Foreign Trade. (1948) imports 1,193 million yuan; exports 1,399 million yuan.

Transport and Communications. Roads (June 1948) 81,970 mi Licensed motor vehicles (1947) cars 20,374, commercial vehicles 35,650. Railways (1947-48) 5,286 mi. Shipping (July 1948): number of merchant vessels of 100 tons and upwards 371, total tonnage 809,114

Finance and Banking. Budget (million C.N.$): (1947) revenue 12,135,000, expenditure 46,004,100; (1948, six months) revenue 56,280,900, expenditure 96,276,600 Monetary unit (from Aug 19, 1948): *gold yuan* (=National Chinese $3 million) with an official exchange rate of four gold yuan to the U S dollar At the end of 1948, however, the official exchange rate was 20 gold yuan to 1 U S dollar. In Dec. 1949 the paper gold yuan became worthless. The exchange rate of silver yuan was 64·5 U S. cents.

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CHOU EN-LAI, Chinese politician (b. Huaian, Kiangsu, 1898), descended from an old mandarin family. Educated at a secondary school in Tientsin, he went to Japan in 1917 and studied at Waseda university for a year and a half. He returned to China in 1919, but the next year went to France under the Mao Tse-tung worker-student plan. Having spent some time in Great Britain and a year in Germany he returned to China in 1924 and joined the Chinese Communist party as secretary of the Kwantung provincial committee. He took part in the Nanchang uprising (1927), was captured there by the Nationalists but escaped. He went to Moscow as a delegate to the 1928 congress of the Comintern and remained there until 1931 studying at the Chungshan university. Back in China, he joined the Kiangsi Communist republic and in 1934-35 took part in the " long march " to Yenan. He revisited Moscow in 1935 as delegate to the Comintern congress. In Dec. 1936, when Chiang Kai-shek was kidnapped at Sian, Chou was largely responsible for his release. During World War II he served as minister of foreign affairs of the Yenan government and from May 1944 to early 1945 took part in negotiations with Chiang, but no agreement could be reached. Chou was again the Communist representative at talks in 1946 with General George C. Marshall who, as President Truman's special envoy, sought to establish peace between the two Chinas. When in 1949 the Communists extended their control over most of China, on Oct. 1 Chou was appointed in Peking as chairman of the state administrative council (prime minister) and foreign minister of the new Chinese people's republic. On Jan. 20, 1950, he joined Mao Tse-tung in Moscow for the final stage of negotiations which ended on Feb. 14 with the signature of a 30-year treaty of friendship, alliance and mutual assistance between China and the Soviet Union.

CHRISTIAN DEMOCRATIC MOVEMENT.

There was little sign during 1949 of any attempt among the parties in the different countries of western Europe that are loosely classed together as Christian Democratic to associate themselves more formally in an international movement. Indeed, those working in this sense were on the whole less active than in the year before; less was heard, for instance, of the Nouvelles Equipes Internationales, which held two international conferences during 1948 and none during 1949. The reasons for this were two-fold. In the first place, members of the Christian Democratic parties are in most cases (although not necessarily) practising Christians and usually Catholics, linked together by the supra-national nature of institutional religion and correspondingly less in need of an international machinery for their contacts than are the members of the secular parties. And in the second place the year 1949 saw great progress towards the political and economic integration of western Europe as a whole, with a leading part being played by members of the Christian Democratic parties, partly because in so many cases theirs were the majority parties and in governmental office and partly because the idea of Western Union is more familiar and congenial *a priori* to Catholic and Christian minds than to others. So it was that at the Council of Europe (*q.v.*) at Strasbourg in August men like Georges Bidault, newly elected chairman of the French M.R.P. (Mouvement Républicain Populaire), and Maurice Schuman, also of the M.R.P., or like Ludovico Montini and Stefano Jaccini of the Italian Democristiani, not only took a prominent part but were constantly in consultation together, as members in a *de facto* international movement, bringing their combined influence to bear more effectively than did, for other instances, the Socialists and the Liberals.

Bidault became prime minister of France in October, and at that time, when Dr. Konrad Adenauer, of the Christlich-Demokratische Union, had become chancellor of the new federal German republic and Gaston Eyskens had become prime minister of Belgium as a result of the summer's elections, it was easy to see that, over the western continent as a whole, the Christian influence in public life had continued to increase. In Belgium, on June 26, when the Parti Social Chrétien confirmed its position as easily the strongest party in the country, the " royal question " overrode, however, the larger issue of ideology. That larger issue was best reflected, so far as the elections of 1949 were concerned, in Germany and Austria. When the western zones of Germany went to the polls on Aug. 14 to elect a parliament for the new

CHRISTIAN DEMOCRATIC PARLIAMENTARY REPRESENTATION

Country	Party corresponding to Christian Democratic	Date of last Elections	Total No. of Seats	Seats obtained by C.D.s	% of Total
AUSTRIA	*Österreichische Volkspartei*	Oct. 9, 1949	165	77	46·6
BELGIUM	*Parti Social Chrétien*	June 26, 1949	212	105	49·5
FRANCE	*Mouvement Républicain Populaire*	Nov. 10, 1946	611	164	26·8
GERMANY	*Christlich-Demokratische Union* / *Zentrum* (Roman Catholics)	Aug. 14, 1949	402	139 / 10	7·1
NETHERLANDS	Catholic People's Party	July 7, 1948	100	32	32·0
ITALY	*Democrazia Cristiana*	April 18, 1948	574	307	53·4
SWITZERLAND	Catholic Conservative Party	Oct. 26, 1947	194	44	25·3

federal German republic, the Christian Democrats again showed themselves to be the largest and strongest party in a contest with the Social Democrats. And in Austria, on Oct. 9, the Volkspartei, although losing some seats to new groupings, remained comfortably the strongest party. (*See* also ELECTIONS.)

The year was marked by a number of international conferences on social matters, as distinct from political matters in the party sense, under the auspices of Christians of whom many had become associated with the Christian Democratic parties. Of these may be mentioned in particular the International Christian Social association, which during 1949 set up an international secretariat in Brussels and held a highly successful conference, the third in annual succession, in that city in October, both outcomes of the meeting at St. Gall, Switzerland, in Feb. 1947. It is relevant also to note the growing strength of the Young Christian Workers (Jeunesse Ouvrière Chrétienne; Christliche Arbeiterjugend) for whom 1949 was a silver jubilee year. The international Catholic university movement, Pax Romana, again, also outside the field of party politics, had a successful year, with a large international conference of students, the first of an annual series, held at Fribourg, Switzerland, in August. It should be stated in connection with all such activities that, although they were Christian and non-political, yet they were bound to be to some extent concerned in politics, and were bound in doing so to come into close relationship with the Christian Democratic parties, whenever ideological elements were found in political life; and it was precisely because of the existence of a wide range of such flourishing international movements that there was no need for any international cultural organization to be specifically associated with the Christian Democratic parties as such. (M. DK.)

CHRISTIAN SCIENCE. Christian Science is a religion founded by Mary Baker Eddy and represented by the Church of Christ, Scientist, made up of the First Church of Christ, Scientist, in Boston, Massachusetts, known as the Mother Church, and approximately 3,000 branches located throughout the world. There were also in 1949 more than 100 college and university Christian Science organizations formed in accordance with the by-laws of the Mother Church.

The Christian Science Church, which in 1948 purchased a large building in Washington, D.C., for the use of its Committee on Publication, opened in the building an exhibit officially called Christian Science World Activities on Display. The exhibit unfolded in chronological sequence the history of the Christian Science movement and included many unique features of architecture and display.

The Wartime Activities committee of the Mother Church continued in 1949 to help those facing the aftermath of World War II. Substantial quantities of food and clothing were supplied for distribution in Europe and elsewhere. Christian Scientists in the United States, Canada and England, interested in helping displaced persons to leave Europe and make new homes for themselves in other parts of the world, were aided by the Wartime Activities committee.

The work of the Christian Science Camp Welfare Activities at military and naval stations doubled during 1949. The Mother Church maintained 56 paid camp and hospital workers. In addition there were 214 volunteer workers who donated their services. Four Christian Science chaplains were assigned to stations with U.S. forces in Germany. Full legal recognition for Christian Scientists to practise Christian Science and charge for their services was granted through legislation enacted in 1949 in Ohio, the last state in the U.S. to pass such a law. Publications of the church, which are issued by the Christian Science Publishing society, include the *Christian Science Journal; Christian Science Sentinel; Christian Science Quarterly;* the *Herald of Christian Science,* published in seven languages and in Braille in English; and the *Christian Science Monitor.*

Transcribed radio programmes, originating in the Mother Church, were broadcast over more than 450 stations in the United States and territories, Canada, Panama, Cuba, Bermuda, New Zealand and Australia. It was estimated that there were 10 million listeners to these programmes each week. (W. D. K.)

CHURCHILL, WINSTON LEONARD SPENCER, British statesman (b. Blenheim palace, Oxfordshire, Nov. 30, 1874). For his career see *Encyclopædia Britannica* and *Britannica Book of the Year 1949.* After the defeat of his government in the general election of July 1, 1945, he led the Conservative opposition in the House of Commons.

He attended the European Movement congress in Brussels in Feb. 1949 and on March 31 he spoke at the mid-century convention of the Massachusetts Institute of Technology.



Winston Churchill (right) receiving the "Sunday Times" book prize from Lord Kemsley, Nov. 1949.

His survey of technological and political developments in the first half of the 20th century was considered by some to have been as important as his speech at Fulton on March 5, 1946. From that speech the movement for European unity and the Council of Europe grew, and in August he led the Conservative members of the British delegation at the first European assembly at Strasbourg. On Aug. 12 he addressed a large crowd in the Place Kléber, where he was received with tremendous applause, and three days later was presented with the honorary citizenship of Strasbourg. After the announcement

of the devaluation of the pound on Sept. 18 he called for the summoning of parliament, and in the special debate that followed he moved a motion of no confidence in the government and again demanded a general election. On Feb. 3 he received in the Guildhall, London, the Grotius medal, a Dutch award for distinguished services rendered in the cause of international peace or international law. He received the freedom of the royal borough of Kensington on June 1 and on Sept. 29 the municipal council of Cannes elected him an honorary citizen. In May he received the honorary degree of doctor of law from Liverpool university. On June 27 the second volume of his memoirs of World War II was published—for this and the first volume he was awarded the *Sunday Times* £1,000 prize for literature for 1948-49.

CHURCH MEMBERSHIP. No accurate comparative figures can be given because no common basis of calculation is observed by the Churches. The figures for the Church of England and Church of Scotland included the returns for electoral rolls, Sunday schools and infant baptisms; in addition the nominal adherents of the Church of England amounted to at least three times this figure. Sunday school membership was included for all the other churches with a few exceptions which are noticed.

ENGLAND AND WALES

Church of England (effective)	5,469,629
" " " (nominal)	15,000,000
Church in Wales (estimated)	250,000
Roman Catholics	2,648,900
Methodists	1,506,053
Independent Methodists	22,095
Wesleyan Reform Union	18,018
Congregationalists	623,713
Baptists	610,958
Presbyterian Church in Wales (including Calvinistic Methodists)	311,815
Presbyterian Church in England	102,802
Brethren (adults)	80,000
Unitarian Free Christians (adults)	24,000
Society of Friends (adults)	20,730
Moravians	10,700
Churches of Christ	9,332

Nine other sects had a total membership of about 60,000. No figures were supplied by the Catholic Apostolic Church, the Christian Scientists and about 15 other sects.

SCOTLAND

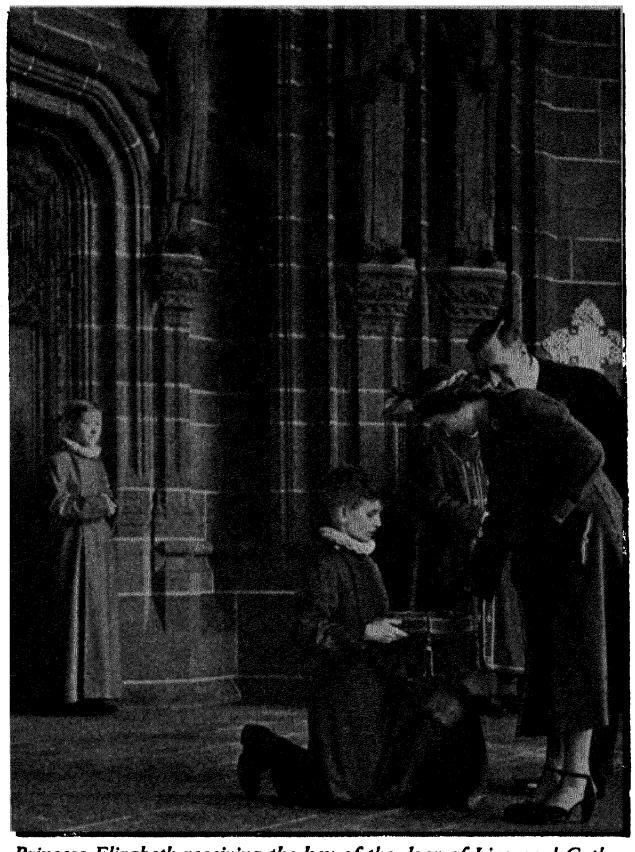
Church of Scotland	1,579,594
Roman Catholics	621,400
Episcopal Church in Scotland	109,984
United Free Church of Scotland	33,238
Congregationalists	48,887
Baptists	34,675
Presbyterians (three groups)	3,457

IRELAND

Roman Catholics (Republic of Ireland)	2,773,920
" " (Northern Ireland)	428,290
Church of Ireland	490,504
Presbyterians	390,931
Methodists	45,903
Baptists	8,852
Congregationalists	4,151
Friends (adults)	1,968

(A. J. MAC.)

CHURCH OF ENGLAND. The most striking event during 1949 was the mission in the diocese of London (May). No previous home mission had ever been so carefully organized, not only amongst the clergy and parishes of the diocese, but by means of the press and radio. A remarkable feature was the widespread use of lay missioners who supported some 150 clerical missioners commissioned by the bishop in St. Paul's cathedral on May 14, when three processions of the robed clergy of the diocese marched to the cathedral from three city churches. In the city itself the mission began on May 11 with a great meeting in Guild Hall with the bishop in the chair. Some 600,000 people attended services and meetings in churches, halls, factories and on open-air pitches all over the diocese, and also lunch-hour services in the city. The Queen was present at the first evening meeting at St. Paul's. Great services of thanksgiving were held at St. Paul's, Westminster abbey and Southwark cathedral. In October a two-day conference was held at Ashridge to arrange for a follow-up.

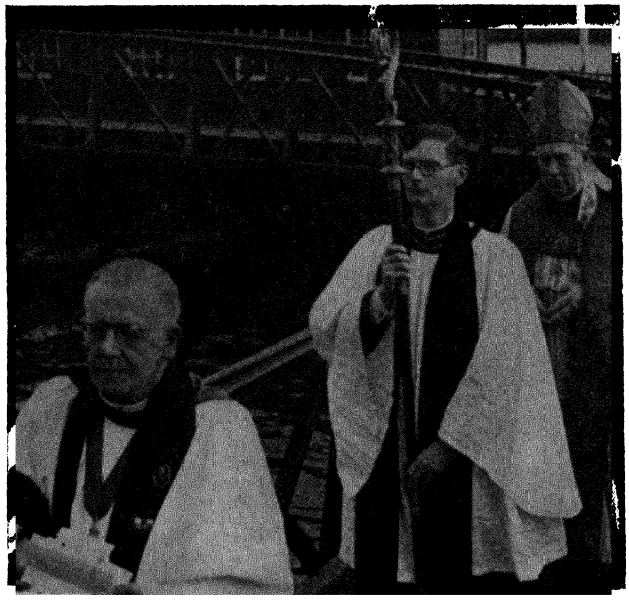


Princess Elizabeth receiving the key of the door of Liverpool Cathedral which she opened during a visit to Liverpool on March 29, 1949.

On June 19 the fourth centenary of the publication of the Book of Common Prayer was celebrated in cathedrals and churches throughout the land. A picture paper, entitled *Your Prayer Book*, was issued by the Society for Promoting Christian Knowledge in an edition of 150,000 copies. The great door of Liverpool cathedral was opened by Princess Elizabeth, accompanied by the Duke of Edinburgh, on March 19. It is at the south side under the great central tower and is approached by 32 steps. The work on the building of Guildford cathedral also continued. The Interim report of conversations between representatives of the archbishop of Canterbury and of the Free Churches was published on March 31, signed by A. E. J. Rawlinson, bishop of Derby, and Dr. Nathaniel Micklem. It recorded complete agreement on the apostolic faith contained in the scripture and the creeds, and substantial agreement on the doctrine of the church and the function of the ministry. The function of the episcopate and other questions remained to be discussed. Further conversations took place at Oxford in September. A scheme for the re-organization and amalgamation of the city churches was published in July. It allowed for the retention of 15 of the churches as parish churches, to be open for Sunday services, and for pastoral work among the resident population in the city as well as for existing lunch-time activities; and 21 " ward " churches were also

retained, mainly for lunch-time work, thus leaving the incumbents free for Sunday duty and specialized evening work elsewhere in the diocese. The revenues of the benefices were to be centralized in a common fund and fixed stipends were to be paid to the rectors and vicars of ward churches. A single board of patronage for the city churches was suggested.

Convocation. The archbishop announced that subsequent editions of the *Shorter Prayer Book* would be issued with the title "*The Shorter Prayer Book*," *being an abbreviated form of the Book of Common Prayer, with some additional matter.* No constitutional question had been raised by the



The bishop of London, Dr. J. W. C. Wand, (right) leaving Tower pier after travelling by boat from Putney for the opening of the north aisle of All Hallows-by-the-Tower, July 14, 1949. Left is the Rev. P. B. Clayton, vicar of All Hallows.

publication of this book and there was no constitutional obligation on the part of the bishops to consult convocation about its issue. A committee was appointed to consider the Lambeth resolutions concerning the Church of South India. Three clergy were appointed to serve on the Provincial Appellate court set up by the Incumbents (Discipline) measure, 1947. Revision of the canon law was continued by both the convocations of Canterbury and York. The subjects dealt with in 1949 were: church festivals; the vesture of the clergy; the conduct of divine service and time of service in cathedrals and parish churches; the Holy Communion; sermons, the bidding prayer, hymns, anthems and church music; Holy Baptism. The York convocation also considered the canons on the marriage service; communion and unction of the sick; burial of the dead; registration of baptism, confirmation, marriage and burials; and divine service in places outside the church. In Oct. 1949 the archbishop of Canterbury addressed convocation on the welfare state; and discussion took place on the second Interim report on baptism, confirmation and Holy Communion, and also on a set of rules to be observed by lay members of the church.

The Church Assembly. The Benefices (Suspension of Presentation) measure, 1946, (Amendment) received final approval by the Church assembly. The Re-organization of Areas measure, 1944, (Amendment), restricting the rights of patrons in certain areas, was extended until 1954. Some other measures received general approval; and it was agreed to drop from the Bishops Retirement measure certain clauses concerning doctrine, ritual and ceremonial, leaving these matters to be dealt with by the convocations in the revision of the canons. The reports of several committees were received. It was agreed that the Report on Lay Evangelism be referred to the convocations, diocesan and ruri-decanal conferences and parochial church councils; the two archbishops were asked to invite the diocesan bishops to appoint a Sunday on which to collect the £40,000 required to train candidates for the ministry accepted in 1949; the diocesan boards were to be asked to raise £450,000 for church training colleges for teachers. The Church commissioners reported that since they administered 800,000 ac. of glebe they could not take over glebe distributed in small parishes all over the country and they advised the sale of glebe where its retention was no longer economical. The suggestion was made that the Ministry of Works should take over disused churches of historical interest. The suggested rules for observance by the laity were welcomed by Sir Eric Maclagan, especially that which urges regular church attendance on Sundays. A commission was appointed under Sir Walter Moberly to draw up resolutions on the relations between church and state, and a council on Oecumenical Co-operation was appointed to maintain relations with the World Council of Churches (*q.v.*) and the British Council of Churches.

No less than seven new appointments were made to the episcopate. Two notable biographies appeared, that of *Cosmo Gordon Lang*, by J. G. Lockhart, and of *Winnington-Ingram* by the dean of Exeter. (*See* also ANGLICAN COMMUNION; CHURCH MEMBERSHIP; MISSIONS, FOREIGN RELIGIOUS.) (A. J. MAC.)

CHURCH OF SCOTLAND. Through its communicant membership of 1,263,423 and its ministerial charges numbering 2,377, the Church of Scotland in 1949 continued to influence the life and affairs of the Scottish people. It again authorized the maintenance of its foreign mission work in all existing fields and appealed confidently for an increase in donations to realize the sum of £240,000 during the year for this work. Through its Churches Overseas department it expanded its work in the Commonwealth and at its continental stations and gave considerable aid to the scheme for the reconstruction of the evangelical churches in Europe. Its Jewish Mission committee intimated that the work of the Church of Scotland would be resumed forthwith throughout Palestine, the Israeli authorities having given every facility for the restoration of properties and the resumption of work.

The general assembly of May 1949 heard with appreciation a report on the first assembly of the World Council of Churches (*q.v.*), held at Amsterdam the previous year, at which the Church of Scotland was strongly represented; and steps were taken to raise increased funds in support of the oecumenical movement through a Scottish Churches' oecumenical council. On the invitation of the archbishop of Canterbury informal discussions were initiated with regard to inter-communion and interchange of pulpits between the Church of Scotland and the Church of England.

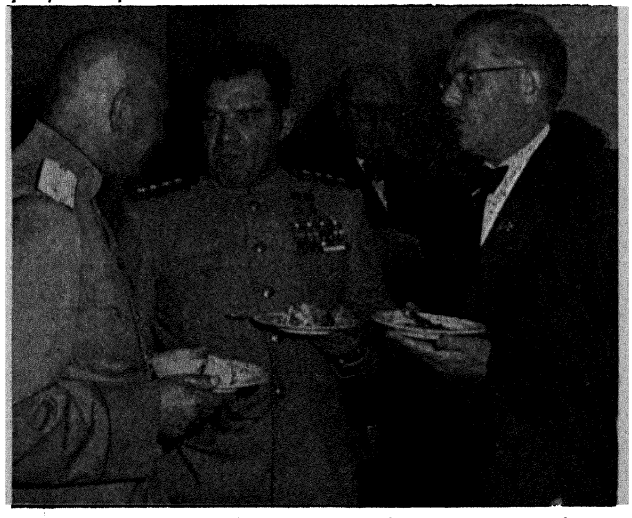
During 1949 the Committee on Church and Nation took cognizance of problems arising in the life of the nation, and out of this concern for public questions there was submitted to the general assembly the report of the Special Committee on Re-Marriage of Divorced Persons, an important document which was to be considered by the Presbyteries of the Church and by the general assembly in May 1950.

Among other questions brought to the notice of the general assembly was that of the Christian doctrine of the "just war" and its bearing on the attitude of the church to war in the atomic age. Always mindful of the care of its youth, the Church of Scotland appointed a special committee on Christian action, charged with informing the minds of young

people in order that materialistic ideologies might be effectively combated. In Scotland itself the work of the Committee on Social Service, which had now no less than 12 " homes for the aged " under its supervision, and of the Home board engaged in the urgent task of church extension into new building areas was well done.

The moderator of the general assembly of 1949 was the Right Rev. George S. Duncan, St. Mary's college, St. Andrews'. The lord high commissioner during the assembly was the Duke of Gloucester. During the year the moderator of the general assembly of 1948, the Right Rev. Dr. Alexander Macdonald, visited various units of the British armed forces including the Scottish troops in the British army of the Rhine. (T. C.)

CHU TEH, Chinese Communist army officer (b. Maanchuang, Szechuan, 1886), son of a peasant. In 1909 he entered the Yunnan military academy and led a company in the 1911 republican revolution. Five years later he was a brigadier general in the army of the Yunnan war lord Tang Chi-yao, who made him provincial commissioner of finance. In 1920, however, Chu abandoned his house and his family and joined the Kuomintang at Shanghai. Two years later, in Berlin, he met Chou En-lai (*q.v.*) and joined the Chinese Communist party. He studied at the Eastern Toilers' university in Moscow and returned to China in 1926, where a year later he directed an officers' training school at Nanchang. He led a revolt against Chiang Kai-shek (*q.v.*) who, in May 1927, broke with the Communists. Defeated, he fled to the mountains of the Fukien-Kiangsi border where, in May 1928, he joined forces with Mao Tse-tung (*q.v.*). A communist state was organized with Chu as commander-in-chief; but in 1934-35 came the " long march " to Yenan. Chu remained there for 12 years as c.-in-c. of the Chinese Communist army. On Aug. 10, 1945, he ordered the army to move into Manchuria " to accept the surrender " of the Japanese and cooperate with the armies of the U.S.S.R. which had declared war on Japan two days previously. With Soviet support, Chu's forces expanded and, three years later, were able to start a big southern offensive. At Peking on July 17, 1949, Chu expressed satisfaction at being successful against "American imperialism and its watch-dog in China, the reactionary clique of Chiang;" new China, he said, would march forward with the Soviet Union. On Oct. 1, he was appointed one of the six deputy chairmen of the new government of the Chinese people's republic and commander-in-chief of its armed forces.



General Vasily I. Chuykov (centre), military governor and commander in chief of the Soviet zone of Germany, at a reception in Berlin to celebrate Poland's national day, July 22, 1949.

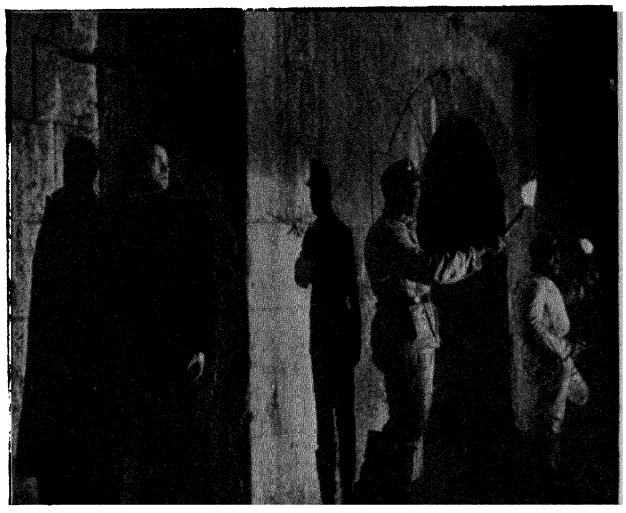
CHUYKOV, VASILY IVANOVICH, Soviet army officer (b. Serebryaniye Prudy, Tula province, 1900). At the age of 12 he went to St. Petersburg (Leningrad) where he worked as errand boy at a bath-house and later at a saddler's shop. He joined the Red army after the October Revolution and after the civil war was sent to Frunze Military academy, Moscow. In 1941 he was Soviet military adviser in Communist China. As commander of the 62nd army he distinguished himself at the end of 1942 in the battle of Stalingrad. In 1943 he was promoted colonel general; two years later he was one of the first Soviet commanders to enter Berlin. After the capitulation of Germany he was appointed chief of the Soviet military administration in the *Land* of Thuringia. On March 30, 1949, he succeeded Marshal Vasily D. Sokolovsky as military governor and commander in chief of the Soviet zone of Germany.

CIGARS AND CIGARETTES: *see* TOBACCO.

CINEMA. The dollar shortage of most European countries during 1949 led to an uneasy situation in the film industry. Though it was natural that Hollywood desired to rebuild the lucrative markets in Europe which were temporarily lost during World War II it was equally natural that, in the difficult economic situation in Europe, any threat to home production resulting from an economic agreement which seemed to favour unreasonably the importation of films whose costs had already been met in America itself was keenly resented. Again, it was more expensive for the exhibitor to hire a British or a French film than to hire its American equivalent from the point of view of audience-appeal since the home-product had the whole of its costs to recoup.

The situation in France during 1949 was that French films must be shown 5 weeks out of the quarterly 13 and that American and British films must be " doubled "; *i.e.*, have a new French sound-track synchronized, thus giving employment to French technicians. The Italians, too, were extremely skilful in dubbing foreign language films. In Western Germany, to take another example, the market was free and exhibitors chose as they pleased; there was always a demand for the few home-produced German films being made. In Great Britain, however, the economic situation reached the point of a major industrial crisis in 1949.

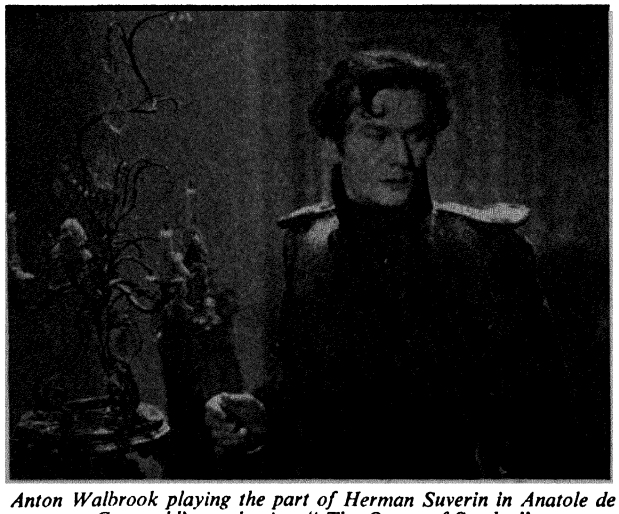
Against the background of these difficulties, since the film persistently remained a two-headed Janus looking alike towards the mountain-heights of art and the heavy seas of industry, production developed along many divergent lines. The eastern European countries maintained a solid front of production, sometimes of a distinguished nature. Soviet films, slow, dignified and strictly orthodox in their ideological structure, led the field to which Poland, Czechoslovakia and Hungary added proficient work. Yugoslavia, cut off from these former partners, was developing a new industry of its own. The work of these and the western European countries was very fully—many said far too fully—represented at the innumerable film festivals organized by several European countries. The eastern European countries held their festival in Marianské Lázně in Czechoslovakia. The western European countries held festivals in Belgium (Knocke), Switzerland (Locarno), Italy (Venice) and France (Cannes). Two special non-competitive festivals of films in the documentary style were held in Hamburg, Germany, and, as usual, in Edinburgh. It was generally agreed that the increase in the number of competitive festivals, with their universal rule that different films must be presented at each, merely reduced the standard of the films which producers were able to submit. The winners of the *Grands Prix* were the British film *The Third Man* (at Cannes), the Italian film



Orson Welles as Harry Lime in the sewers of Vienna in "The Third Man," a London film production, produced and directed by Carol Reed.

Bicycle Thieves (at Knocke), the French films *Manon* (at Venice) and *La Ferme des Sept Péchés* (at Locarno), and the Soviet production *The Battle of Stalingrad* (at Marianské Lázně). Conferences of importance were also held during 1949 including those convened by the international Scientific Film association in Brussels, the international Federation of Film Archives at Rome and the International Federation of Film Critics at Cannes.

Great Britain. During 1948 the quota for British productions which must be shown in British cinemas was fixed by the president of the Board of Trade at 45%. This high quota, double that which had ever been in operation since the British quota was first instituted by law in 1928, was introduced more to save Britain's dwindling dollar reserves for such luxuries as film entertainment than to protect her film industry. The quota, which was reduced in March 1949 to 40% for the year 1949-50, was bitterly resented alike by the American producers and the British exhibitors. A further complication began to show itself during 1949. The supply of British films began to fail, for producers found that it was difficult to finance films which, although protected as far as exhibition was concerned by an artificially high quota, did not cover their costs even when they were reasonably successful with the public. Producers hastened to point out that, although they were the people who took the greatest financial risk in the making of the film, out of every £100 their work earned at the box office entertainments tax took about £40, the exhibitors another £40 and the distributors a further £10. Eventually therefore, the producer got some £10 for every £100 taken at the box office. His costs meanwhile remained very high and films costing from £200,000 to £500,000 were bringing back only £150,000 to £250,000 after an interval of one or two years. The studios began to close; and to assist the industry, the government created in Oct. 1948 a Film bank with a capital sum of £5 million from the Treasury to make loans, in most cases on a distributor's guarantee, to producers who could not otherwise finance their films privately. In April 1949, Lord Reith, well-known as the director-general of the B.B.C. from 1927 to 1938, was appointed chairman of this Film Finance corporation. Meanwhile the government set up a committee initially presided over by the late Lord Portal "to consider, against the background of the general economic situation in the film industry, the arrangements at present in operation for the distribution of films to exhibitors and their exhibition to the public in commercial cinemas, and to make recommendations"; and a second committee, with Sir George Gater as chairman, to investigate costs of British production. In November J. Arthur Rank, Great Britain's senior producer and studio-owner, declared he had lost £3,500,000 in production ventures. He declared that *Henry V*, made in 1943 and first released in London in 1944, had only four weeks earlier succeeded in recovering the costs of its negative —that is, nearly five years after its initial release. In the same period it had contributed more than £400,000 in entertainments tax.



Anton Walbrook playing the part of Herman Suverin in Anatole de Grunwald's production, "The Queen of Spades."

The situation at the close of the year, with the publication of the Gater committee's report as a government white paper in which past production extravagances were castigated, called for considerable retrenchment on costs among companies still at work. There was a general sense of grievance against the high levy of entertainments tax and some anticipation of government action to alleviate the problems of this small but troubled industry.

In spite of these economic difficulties Great Britain managed to produce during 1949 some films worth attention in any year. There was no British school, in the sense that the new Italian realist films could be said to constitute a school or genre of film-making. At one time, during the middle years of World War II, it seemed likely that there would be a realist school in Great Britain but, apart from certain films made at Ealing Studios, the virtues of British production could be seen to lie in the highly individualistic styles of film-makers like Carol Reed, Thorold Dickinson or David Lean, working on films of a very different kind in each case. Ealing Studios, under the supervision of Sir Michael Balcon, produced a new series of comedies which certainly had something of a common style—including *Kind Hearts and Coronets* (Robert Hamer), *Whisky Galore* (Alexander MacKendrick) and *Passport to Pimlico* (Henry Cornelius). Charles Frend's *Scott of the Antarctic* in colour was a great prestige success, but Harry Watt's second Australian film, the historical *Eureka Stockade*, was something of a disappointment, largely because of its poor acting.

Another well intentioned realistic film which failed in part to survive the test of scripting and acting was *Blue Scar* (Jill Craigie), a film set and produced in a Welsh mining village. Two other films also in the realistic style were *Give us this Day* (Edward Dmytryk), remarkable for its reconstruction of Italian life in New York, and *The Small Back Room* (Michael Powell and Emeric Pressburger) based on Nigel Balchin's novel of civil service research work during World War II. Films which had success during the year

and which were based on novels and plays included *The Guinea Pig* (John and Roy Boulting), *The History of Mr. Polly* (John Mills), *The Passionate Friends* (David Lean)—both the latter derived from novels by H. G. Wells—and *Quartet*, based on four stories by Somerset Maughan. The most discussed films of the year were Thorold Dickinson's period piece *The Queen of Spades* and Carol Reed's *The Third Man*, which gained the *Grand Prix* at the Cannes Film festival.

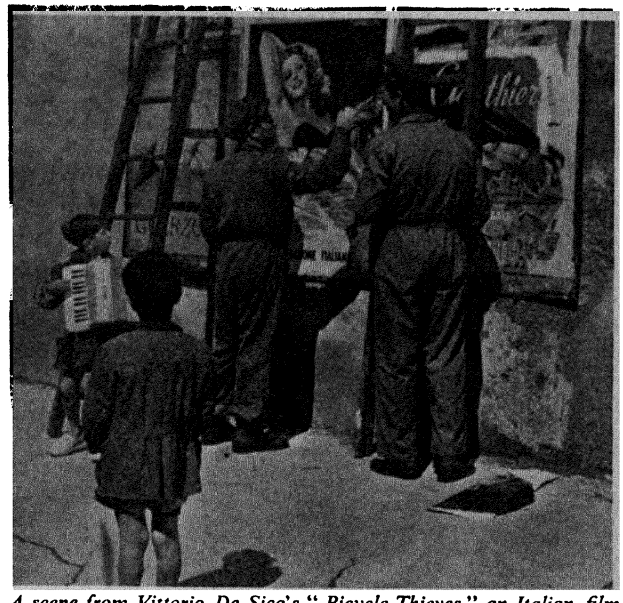
These films, produced during the past two years but shown mainly during 1949, proved that Great Britain was capable of producing a small output of important pictures each year. Unfortunately a far greater number of poor quality films were also released and the result was that the box office demand for British, as distinct from American, films tended to decline. This could only be rectified by a revival in quality as distinct from quantity in British production. In the branch of documentary production, more particularly in the specialized technical and scientific films, Great Britain remained outstanding, as was shown by the many awards to British productions given at the Venice festival. Many films, notably *Daybreak in Udi*, *Atomisation*, *Cornish Engine*, *Turbo-jet propulsion*, *Digestion*, *Growing Girls* and the historical compilation *The Peaceful Years*, kept the standard of factual film production high.

Commonwealth. Apart from the large output of commercial feature films in India, documentary production was the most important work done in films in the Commonwealth. India, Australia, New Zealand and especially Canada were all consistently producing factual films under government sponsorship. Outstanding Canadian documentaries dealt with psychology and health; *Drug Addict* and *Over-Dependency* were particularly good; others dealt with education, notably *Children's Concerts* on the teaching of musical appreciation. Norman McLaren continued his gay experiments in abstract animated films in colour painted straight onto the celluloid and set to jazz music. The Australian National Film board's chief contribution during 1949 was the over-long but excellently shot *The Valley is Ours*, a film about the Murray valley and its economic and agricultural problems. An important fact was that during 1949 the Shell Film unit established a branch production unit in Australia to produce technical and scientific films in the Pacific.

In India the government-sponsored organization, Information Films of India, which had been disbanded in 1946, was revived and extended in 1947 as the Films division of the government of India. This organization produced newsreels and documentaries for both theatrical and non-theatrical exhibition; the languages used were English, Hindustani, Tamil, Telugu and Bengali, and the subjects were political, social and cultural.

Czechoslovakia. After the success of the Czech war films in 1946-47, the unique work of her cartoon and in particular her puppet films attracted international attention. The chief technicians of the puppet films were Jiři Trnka and Boživoj Zeman; some of the latter's recent films used examples of the glass figures for which another industry in Czechoslovakia is famous. Among recent feature films were the war subjects *The Ghetto Terezin* (Jiři Weiss) and *The Silent Barricade* (Otakar Vavra). The large studios of Barrandov near Prague were being enlarged so that the objective of the production of over 50 feature films a year could be realized by 1953, together with regional productions emanating from Slovakia.

France. French producers were faced with similar economic disadvantages as their British colleagues, though they never allowed their costs to rise to a level equal to the costs of British productions. They had, therefore, been able to continue production on the same scale as in 1948, that is, at a level about two-thirds that of the prewar output. Artistically speaking, it could not be said that France occupied the position she did before World War II as the leading European centre for the production of remarkable films. As in Great Britain, there was no longer a school of French production like the work of the contemporary Italian realists. Each director of importance, Marcel Carné, Jean Cocteau, H. G. Clouzot, Jacques Becker, Claude Autant-Lara, Julien Duvivier or Yves Allégret went his own way; perhaps all they had in common to a certain extent was a taste for bitterness and disillusion, as if they were at war with life rather than fulfilling it through their art. Some new or less well known directors came forward during the year. Jacques Tati, in a simple burlesque called *Jour de Fête* which he produced and in which he starred, gained the distinction of being compared with Charles Chaplin. Yves Allégret made a controversial and bitter film, *Manèges*, in which a man is exploited by his wife and mother-in-law to a final pitch of



A scene from Vittorio De Sica's "Bicycle Thieves," an Italian film widely acclaimed in 1949.

inevitable resentment. Jean Devaivre made a technically interesting mystery film, *La Ferme des Sept Péchés*, and Louis Daquin produced a socially healthier film called *Le Point du Jour*, photographed in the realistic setting of the French Liévin mining area. The most controversial film of the year was H. G. Clouzot's *Manon*, which, in spite of winning the *Grand Prix* at Venice, met with considerable censorship difficulties in several countries through its handling of a modernized version of the Abbé Prévost's story. Other films of interest included *Les Parents Terribles* (Cocteau), *Rendez-vous de Juillet* (Becker) and *Au Royaume des Cieux* (Duvivier).

Germany. In 1949, Germany was reviving its film production under the complex and varying administrations imposed by the different occupying powers. The cinemas were well attended and on the free market of Western Germany British and American films were popular with exhibitors and audiences. The best facilities for film-making were in the Russian and American zones. The films most popular with audiences were understandably films of escape and the more recent examples of subjects which still reflected a wartime or postwar consciousness of defeat did not draw audiences. *Berliner Ballade* (R. A. Stemmle and Günther Neumann) satirized German self-pity to some extent, while *Liebe '47* (Wolfgang Liebeneiner) stressed it. Other films dealing in various ways with social themes were *Die Buntkarierten* (Kurt Maetzig), *Pit "Aurora"* (W. Schleif

and E. Freund). *The Blum Affair* (Erich Engel) and *The Call* (Josef von Baky).

Italy. For how long Italy, with the advantage of her comparatively low production costs, would be able to continue to give directors such as Roberto Rossellini (*q.v.*), Vittorio de Sica, Alberto Lattuada and Luigi Zampa freedom of subject and style was debatable. Italian audiences, like those elsewhere, preferred romantic films to those realistic subjects which gave Italy a world-wide reputation after World War II. Many of these now well-known films were produced at a cost of little more than £20,000 to £30,000; *i.e.*, at a rate less than one-sixth what their production cost would have been in Great Britain or America. There was no doubt that freedom of subject and treatment as exemplified by the Italian cinema was closely related to this low production cost; were this condition to disappear these films could probably not be made. In the same way, the fine films on Italian art made by Luciano Emmer could be made because the overhead expenses involved were small.

Vittorio De Sica's simple and beautiful film, *Bicycle Thieves*, the story of a day in the life of an unemployed man and his son, led Italian realist production for 1949. Lattuada's *Mill on the Po*, dealing with the Italian agrarian labour trouble of the 19th century, was also important. Roberto Rossellini worked during the year on two films, *Terra di Dio* with Ingrid Bergman and *La Macchina Ammazzacattivi*, a satiric fantasy set in Amalfi. M. Camerini's *Molti Sogni per le Strade*, with Anna Magnani (*q.v.*), was in a lighter style and two good melodramas were Giuseppe de Santis's *Bitter Rice* and Pietro Germi's *In the Name of the Law*.

Poland. Poland had been building up her film industry since 1944. By 1949 she had already achieved a fine school of documentary films as a part of her nationalized industry, but her ability to make important feature films was now also established. *The Last Stage* was a completely convincing reconstruction of life in the women's concentration camp of Auschwitz, Poland, directed by Wanda Jakubowska; *Robinson Warsaw* (Jerzy Zarzycki) dealt with the lives of a number of Warsaw citizens during the destruction of the city by the Germans; while *Truth Knows no Frontiers* showed the martyrdom of the Polish Jews in the Warsaw ghetto.

Scandinavia. As film-producing countries, Denmark and Sweden were far ahead of Norway, which had only the smallest output of films in the documentary style. Whereas Denmark specialized in documentary production under state subsidy similar to that of Great Britain, Sweden concentrated mainly on commercial feature films, a few of which were shown widely in other countries. The new directors of importance who emerged from these countries were Bjarne Henning-Jensen of Denmark and Arne Sucksdorf of Sweden. The former was noticeable for his handling of children and adolescents in his sensitively photographed films; the latter was an experimentalist in subjects involving location work and carefully contrived rhythms.

U.S.S.R. Production in the U.S.S.R. had still not fully recovered from World War II and the number of feature-length films produced remained comparatively small. Among recent films of merit were, *Academician Pavlov* (G. Roshal), *Lenin* (M. Romm), *The Battle of Stalingrad* (V. Petrov), *Young Guard* (S. Gherasimov) and *The Village Teacher* (M. Donskoy). *Lenin* was a well-made historical compilation including a number of extracts from the "classical" silent films of the 'twenties. The others included well acted, realistic reconstructions of the life and work of famous Soviet scientists and of Joseph Stalin's conduct of the defence of Stalingrad. Soviet animated films, notably *The Little Hunchback Horse* and *A Tale about a Soldier*, were shown at the Edinburgh festival with great success: both had a distinct style and sense of design.

Yugoslavia. Yugoslavia was determined to establish an important film-industry representing her six republics: Slovenia, Serbia, Croatia, Bosnia and Hercegovina, Macedonia and Montenegro. Work started on an organized basis in 1945 when a Federal Film commission was founded and 1947 saw the establishment of a training school for film technicians, the full course taking three years. The three branches of film-making, newsreel, documentary and educational films, and feature films, were all well developed; by the end of 1948, 200 newsreels, 120 documentaries and 14 feature films had been completed. The enthusiasm of these new film-makers overshadowed their early technical inadequacy, and more recent films such as *Sofka*, which was shown with success at the 1949 Edinburgh Film festival, indicated, in spite of some slowness, a fine feeling for period and regional custom. Most Yugoslav film subjects, however, were still concerned with World War II as it affected Yugoslavia; and the documentary film-makers were closely concerned with using the cinema to develop educational work among the more illiterate sections of the country.

(R MAN.)

United States. In 1949 the outlook of the U.S. motion picture industry brightened perceptibly both at home and abroad. In neither instance were the results immediately convertible into cash profits, their chief value lying in the industry's psychological reactions.

One factor was especially responsible for the improved outlook: the success of the effort to decrease production costs without sacrificing the quality of the product.

The industry's morale may be said to have reached its lowest point in Feb. 1949, when only 22 pictures were under production in Hollywood, compared with a normal figure of nearly twice that number. Then a reaction set in, which was reflected both in the statements of industry leaders and in studio announcements of future productions. In terms of employment, the swing to a more optimistic viewpoint may be measured by the number of employees in the industry—12,000 in February, increasing to nearly 15,000 at the end of 1949.

The industry had settled down to the task of reducing production expenditure. Under the sponsorship of the major studios, the Motion Picture Research council undertook continuous laboratory and experimental work. One development, a strippable adhesive for wallpaper used on film sets, resulted in a yearly saving of $40,000 per studio. Reduction in production costs generally was estimated at 20% to 25%.

Box-office returns for 1949 were estimated at $1,375 million. The net profit estimate for seven major companies was $55 million, about the same as in 1948. Studio financial reports generally showed profits, though not always equal to those of 1948.

In the world market situation, the U.S. industry was still beset by restrictive regulations and dollar shortage. Predictions of a drastic cut in returns from abroad did not come true, however, and the 1949 foreign revenue of the distributing companies was estimated at 38% of gross film rentals, only a slight reduction from 1948. As their principal method of obtaining value from frozen funds, U.S. companies greatly expanded their foreign production activities. Italy, in particular, became a focal point for such operations, though England continued to get its share of attention from U.S. producers. Several important pictures, such as *Stromboli* and *Deported*, were filmed in Italy during the year.

The devaluation of the pound, followed by similar currency action by countries in the British economic orbit, decreased the value of blocked funds of U.S. film companies and of their potential future earnings.

At the end of 1949 the long U.S. government anti-trust

action which sought to divide exhibition from producer-distributor interests had not reached a final settlement. However, Paramount followed RKO in arriving at a consent decree embracing such terms. Warner Bros., Loew's (Metro-Goldwyn-Mayer) and 20th Century-Fox continued to seek some mitigation of the demand for independent ownership of production-distribution interests and the exhibiting cinemas.

Two producing companies fell by the wayside during the year. Beset by financial difficulties, Eagle-Lion Films suspended production indefinitely at its Hollywood studios after about four years of operation. The company, officials said, would continue in business but only as a distributor of films made by foreign or independent producers.

At about the same time, David O. Selznick, one of the industry's leaders for many years and generally regarded as one of its most distinguished producers, closed his studio and disbanded his producing organization.

Some competition was felt by film theatres in television centres, but not enough to register on a national scale. Film companies conducted experiments with large-screen theatre television. Late in 1949 Columbia announced a programme of short subjects for television.

The outstanding development in production trend in 1949 was concern with racial questions, following previous emphasis upon anti-Semitism. The situation of the Negro in the U.S. was dealt with in such films as *Pinky*, *Intruder in the Dust*, *Lost Boundaries* and *The Home of the Brave*.

A number of the year's pictures dealt with the war—*Battleground*, *Twelve O'Clock High*, *The Hasty Heart*, *Task Force* and *Sands of Iwo Jima*. Even the two highly successful comedies, *I Was a Male War Bride* and *Francis*, had war backgrounds.

Other outstanding productions were *Jolson Sings Again*, *The Heiress*, *All the King's Men*, *Champion*, *They Live by Night*, *Samson and Delilah* and *The Stratton Story*. Some of the outstanding musical productions were *The Barkleys of Broadway*, *Dancing in the Dark* and *On the Town*.

New faces which attracted the most attention on the screen in 1949 were Kirk Douglas in *Champion* (which also introduced a new independent producer, Stanley Kramer), John Derek, Mercedes McCambridge, Keefe Brasselle and Richard Todd. Broderick Crawford, while not a newcomer, was acclaimed for his work in *All the King's Men*.

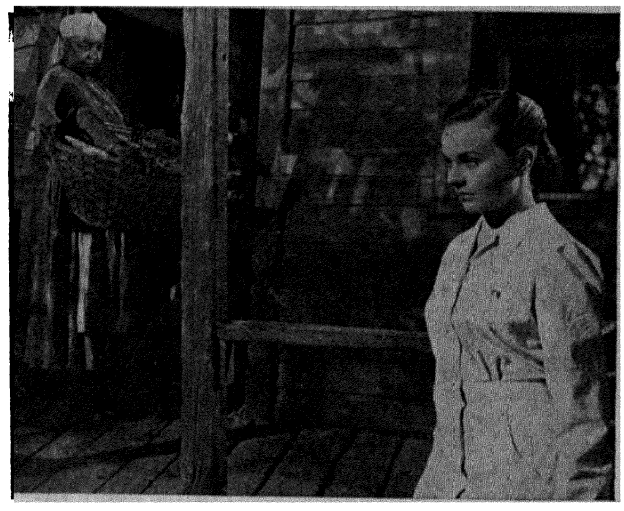
The New York film critics made the following selections for 1949: best picture of the year, *All the King's Men;* best foreign-language picture, *The Bicycle Thieves* (Italian); best actress, Olivia de Havilland; best actor, Broderick Crawford; best director, Carol Reed, for *The Fallen Idol* (British).

Leading box-office stars of 1949, according to the annual poll of *Motion Picture Herald*, were Bob Hope, Bing Crosby (who had been first in the five preceding polls), Bud Abbott and Lew Costello, John Wayne, Gary Cooper, Cary Grant, Betty Grable, Esther Williams, Humphrey Bogart and Clark Gable. (L. O. P.)

Technical Developments. *Colour.* Several new colour films were introduced in 1949. The Ansco process was further developed and received additional commercial use. A complete line of film types was now available for all the necessary steps from the original taking film up till the " duping " and special effects steps to release prints.

Du Pont introduced a positive film for making three-colour prints from separation negatives. This film was notable for employing a synthetic polymer which combined the functions of the gelatine and the colour former usually employed.

Eastman introduced, on an experimental basis, a three-colour negative and positive film of the single film, triple emulsion type. Tests on these films were in progress in Hollywood at the close of the year. Both Eastman and du Pont continued experimenting with a negative film involving the use of three emulsions, two of which were subsequently stripped from the original base and mounted on new film bases in the laboratory before development.



Jeanne Crain (right) in the part of the negro girl who passed as white in the Twentieth Century-Fox production " Pinky."

Polacolor corporation introduced and employed commercially for a limited number of three-colour cartoons a process using a standard single emulsion black-and-white positive film. It had to be printed in successive printing and developing processes from three-colour separation negatives, and resulted in a three-colour subtractive print.

Photography. Latensification, a system for increasing effective film speed involving a low intensity and a relatively long general exposure of the film immediately before development, was used considerably in 1949 as a means of reducing the cost of producing motion pictures.

A new portable camera, the Camerette, manufactured by Etablissements Cinématographiques Eclair of France, was introduced in Great Britain and Europe in 1948 and in the United States during 1949. This camera had some excellent operating features and was well received in Hollywood.

Sound. Magnetic recording was gradually being integrated into the production of motion pictures in Great Britain, Europe and the U.S. Its freedom from photographic printing and developing distortions, the possibility for somewhat smaller and lighter recording equipment and operating economies were factors stimulating its use.

A new miniature, non-directional condenser microphone and associated amplifier was introduced in Hollywood by the Altec Lansing corporation.

Safety Film. In the United States the low shrinkage safety base film of the tri-acetate type, introduced by Eastman Kodak, was received with considerable favour. It was currently used for release prints and studio work prints. There was some application as a sound recording negative and experiments were in progress to determine its adaptability to picture negative films. The Eastman Kodak company was said to be planning to discontinue the manufacture of all nitrate based films in favour of this new base.

Set Construction. There was considerable activity in the application of new plastic materials to various phases of set construction. These included breakaway glass, combinations of plaster and plastic, low-temperature thermosetting plastics for casting in ornamental objects of various types, lightweight tree trunks, building columns and many other similar applications. Strippable adhesive was used with wallpaper and temporary flooring such as linoleum or asphalt tile. In both

applications, this adhesive afforded the easy removal of the surface material.

A new photographic backing was introduced and was available in fairly large sizes, either black-and-white or in full colour. Its translucence permitted novel and realistic effects to be obtained by lighting from the back.

Theatre Television. Two systems of theatre television were being developed and were in limited commercial use—the instantaneous projection system and the film storage system. In the former, the television picture was projected from a special television receiving equipment directly on the motion picture screen. Installations of this type were made in theatres in Boston, New York and Philadelphia.

In the film storage system, the television picture was photographed on 35-mm. film from a special television receiving equipment located in the theatre. The film was processed on a high speed basis and could be projected through the standard theatre projection equipment a few minutes after the reception of the television picture. Installations of this type were made in New York city and Chicago, Illinois.

The U.S. Federal Communications commission conducted hearings on theatre television at which the Society of Motion Picture Engineers and two theatre chains were requested to present briefs. One of the chains presented a detailed plan for a network of approximately 25 theatres located in nine different cities. The proposal contemplated a special television network distributing special programmes staged for the purpose, public events of common interest and selected programmes also being televised for home reception.

(W. V. W.)

CIVIL LIST PENSIONS. Under the Civil List act, 1937, the amount allowed to be granted in any one year was raised from £1,250 to £2,500, of which £1,600 was expended in the year to March 1949 on new pensions and £900 on increases to existing pensions.

New pensions were granted to: Mrs. Ruby Austen in recognition of the services rendered by her husband, the late John Austen, to art and literature (£200); Mrs. Ada Chesterton for services rendered by herself and her husband, the late Cecil Edward Chesterton, to literature (£250); Mrs. Constance Hassall for services rendered by her husband, the late John Hassall, to poster art (£100); Thomas Rowland Hughes for his services to literature (£200); Miss Marion McDonald for services rendered by her father, the late Rev. Dr. Archibald McDonald, to the history and literature of the Scottish Highlands (£150); Miss Nancy Price for her services to drama (£150); Mrs. Lilias Helen Morley for services rendered by her husband, the late Harry Morley, to art (£100); Miss Cicely Fox Smith, for her services to literature (£150); Mrs. Agnes Louise Stenhouse for services rendered by her husband, the late Ernest Stenhouse, to scientific research (£150); and Miss Ruby Wyld for services rendered by her father, the late Professor H. C. K. Wyld, to scholarship (£150).

CIVIL SERVICE. The twelve months to Oct. 1949 saw no important change in the main organization of the civil service in Great Britain. During the latter part of 1948 the development of the social insurance schemes resulted in further additions being made to the staff of the Ministry of National Insurance. At the same time responsibility for domiciliary assistance was transferred from local authorities to the National Assistance board which took over some 1,700 staff with the work. These measures were, however, more than counterbalanced by reductions over a large part of the civil service. The major contributions came from the trade and industrial departments which were able to make relaxations on controls and rationing. The Ministry of Labour was also able to reduce its numbers consequent upon a diminution in the work of resettling demobilized ex-service men. The net result of these changes was that the number of non-industrial staff employed in the civil service fell from 715,000 in July 1948 to 697,000 in Oct. 1949.

Recruitment. The Reconstruction competitions, designed to restore opportunities lost on account of World War II, came to an end and normal competitions, suitably modified to fit postwar conditions, were fully resumed. Besides the normal competitions to the administrative class by the two methods used in 1948, about 50 direct entrants were recruited to the Principal grade by means of a special open competition.

Recruitment to the executive and clerical classes from among those leaving school improved; and the first competition was held for university graduates to enter the executive class. The executive class competition for young men who had just completed their compulsory national service and the executive and clerical classes competitions for men and women who had served on regular engagements in the forces were also continued.

Establishment of Temporary Staff. Further progress was made with the process of establishing posts previously regarded as temporary. Under these arrangements 750 temporary executive staff became established and departments carried out the first part, covering 15,000 posts, of a scheme intended eventually to establish 34,000 temporary clerical posts.

Questions of Organization. *Treasury Control of Civil Service Establishments.* During 1949 the functions of the Treasury in relation to the control of numbers and grading in the civil service were re-defined. It was recognized that such control could be carried out with full efficiency only by the principal establishment and organization officers of each department (whose appointment and removal were subject to the approval of the prime minister) acting on behalf of the permanent secretary and accounting officer of that department. The responsibility and powers of such officers were accordingly increased and widened, notably by the delegation of greater powers to vary complements within maxima agreed with the Treasury at half-yearly intervals.

As a corollary the Treasury would now direct its attention primarily to the central control and scrutiny of the exercise by departments of their responsibilities in regard to numbers of staff and grading. The Treasury aim was to carry out once a year a comprehensive review of the numbers employed in each department. To this end Treasury officers, including specially selected staff inspectors, would make frequent visits to the departments, paying particular attention to the arrangements in force for control of complements and for staff inspection.

Organization and Methods. Increasing use was made of staffs engaged whole time in the investigation of problems of organization and methods. The 18 largest departments continued to employ such staffs directly and the rest drew on a common pool in the Treasury. By the end of 1949 most departments had embarked on a planned review, that is the systematic overhaul of the department as a whole. The reviews were being undertaken in various ways. In some departments they were entrusted wholly to the organization and methods staffs; in others the direction of the review was in the hands of a committee which might include senior officials from other departments and personnel from outside the civil service with special experience in questions of organization.

Training. Much had been done since World War II to improve the arrangements for training staff. Training officers had been appointed in all departments and training was carried out both on the job and at organized courses which

included reception courses for new entrants and courses in the principles of staff management for those in charge of groups of staff. The Treasury exercised general control, gave guidance to departments on training and held central courses for certain kinds of staff.

Senior staff were selected for attendance at the Imperial Defence college and the Administrative Staff college and for paid leave of absence to study and travel. Programmes of study were also arranged for foreign officials visiting the United Kingdom.

Professional and Technical Classes. Considerable progress was made in carrying out in detail the broad plans of reorganization made during the years immediately after World War II, but the task was by no means finished; the scarcity of qualified people made recruitment difficult and delayed the work of reorganization. Two new classes were formally instituted: one, of psychologists, employed to classify the abilities of recruits to the civil service, of members of H.M. forces and, by the Prison commission, of certain convicted persons; the other, of information officers, whether employed as public relations officers and in the press offices of departments, or in the technical and creative divisions of the Central Office of Information.

Miscellaneous. *Superannuation.* The Superannuation act, 1949, made some important changes. The civil service secured a pension scheme for widows and orphans and certain dependants. The act provided for the widow or adult dependant to receive a pension of one-third of the civil servant's pension should he die after retirement or one-third of his accrued pension should he die in service; this pension being augmented by one-quarter for each orphaned child up to four. If there was no eligible widow or adult dependant, a proportion of the sum which would have been payable to the widow was paid to any orphan or dependent child, the proportion ranging from one-half for one child to the whole pension for three or more. The pension scheme for widows and dependants was contributory, the civil servant's contribution being estimated to pay approximately half the cost of the benefits. The widows' scheme was optional for existing civil servants but compulsory for future civil servants; the dependants' scheme was optional for both existing and future civil servants.

The act also enabled civil servants to retire after the age of 50 with a right to draw deferred pension on reaching the normal retiring age of 60; and to earn additional pension should they continue to serve after reaching the age of 60.

The Chorley Report. The government accepted the recommendation of the Committee on Higher Civil Service Remuneration (Cmd. 7655, H.M.S.O., London). The committee recommended substantial increases in the salaries attaching to the senior posts in the service—an increase, for instance, of £1,000 on the salary of £3,500 then paid to the permanent heads of major departments. They based their findings on the long-standing under-payment of senior civil servants which in their view had existed since the early 1920s and had been accentuated since World War II by the salaries paid in the new nationalized industries. The actual introduction of the new salaries, originally due to begin in Oct. 1949, was deferred owing to the worsening of the economic situation and the need for stabilizing wages and salaries generally.

The Masterman Report. The year 1949 also saw the publication of the report of the Masterman committee on the Political Activities of Civil Servants (Cmd. 7718, H.M.S.O., London). The fundamental problem before this committee was to reconcile the claims of civil servants to the right to participate in politics and to exercise in as full a manner as possible the rights and duties of citizenship with the desirability of maintaining the traditional political impartiality of the civil service. The broad effect of the committee's recommendation was to grant complete political freedom for the first time to some 450,000 members of the industrial classes and of the minor and manipulative grades (mainly in the post office) while leaving some 450,000 members of the office grades from typists to senior administratives subject to the existing limitations. The government accepted the report but for the time being it was only being put into effect to the extent to which its recommendations conferred freedom from restrictions on the industrial classes and minor and manipulative grades. (E. E. Bs.)

CLASSICAL STUDIES. It was still too soon to estimate the effect on classical studies in Great Britain of the new regulations for school and matriculation examinations; but the position of Latin seemed to be fairly secure, especially in view of the requirements in Latin still demanded by Oxford, Cambridge and some other universities. An inquiry made by the Classical association also showed that there was a small increase in the number of pupils taking Greek at the school certificate examinations. The Classical association held an unusually successful meeting at Manchester, extending over five days, at which the presidential address was delivered by Lord Soulbury on "Classics and Politics." The 23 local branches of the association continued to organize lectures in their areas, sometimes at schools for young audiences, and 11 branches held inter-school prize competitions in the reading of Latin aloud. The Society for the Promotion of Hellenic Studies followed the lead of the Classical association and the Roman society in arranging provincial meetings.

These societies were all represented at the first annual meeting in Paris of the Bureau of the International Federation of Classical societies Important decisions were taken, including arrangements for the first general congress of the federation to be held in Paris in Aug.-Sept. 1950 and the allocation of the U.N.E.S.C O. grant of $5,000 to assist the publication of further instalments of the *Thesaurus Linguæ Latinæ* (Munich), *Oxyrhynchus Papyri* (Part 19, London, 1948), the Budé *Corpus Hermeticum* (Paris), and archæological work by Professor G. Lugli.

The Year's Work in Classical Studies (Bristol), which had been published annually until its interruption in 1939, appeared again during 1949 as a large volume giving summaries of research work in various classical fields published during the period 1940 to June 30, 1945. The succeeding volume, to cover the period July 1, 1945 to 1948 was sent to the press and would appear early in 1950. In view of altered circumstances, it was decided that with this, the 34th issue in the series, the publication of *The Year's Work* would be discontinued.

Among important books of 1949 were: from the Clarendon Press, *The Oxford Classical Dictionary*, *Some Oxford Compositions*, R. Pfeiffer's *Callimachus*, M. Cary's *The Geographical Background of Greek and Roman History* and Sir T. Heath's *Mathematics in Aristotle*, from the Cambridge University Press, J. O. Thomson's *History of Ancient Geography* and J. E. Raven's *Pythagoreans and Eleatics*; and from Macmillan, London, R. E. Wycherley's *How the Greeks built Cities*. E. V. Rieu added a new translation of Virgil's *Eclogues* to his *Odyssey* in the popular "Penguin" books (London), while B. Farrington produced his second "Pelican" (London) volume on *Greek Science* (Theophrastus to Galen). (L. J. D. R.)

CLOTHING INDUSTRY. A draft order providing for the setting up of a development council for the clothing industry was approved in the House of Commons on Nov. 1, 1949, by 196 votes to 77. This was the outstanding event of the year for an industry which had never previously had a

central body but had expressed itself through some 25 different trade associations. Organized employers were strongly opposed to the creation of a council and claimed that the support for it, as required by the order, did not exist. To this the president of the Board of Trade replied that the council was supported by the organized workers, by 1,000 of the industry's 6,000 organized firms and by prominent individual manufacturers. He pointed out that three Working parties, after examining the heavy, light and proofed clothing sections of the industry, had recommended a central body, two of them suggesting a development council. The council was to consist of 18 members, six representing the employers, one representing managers or technicians, six representing other employees, one having special knowledge of distribution and four independent members. The draft order also provided for the setting up by the council of three committees to advise on the heavy, light and proofed clothing sections and other committees to deal with special problems.

Clothes rationing came to an end in 1949. Measures to control the allocation of textiles remained, to ensure that supplies of clothing to the home market were not increased at the expense of exports. The "utility" scheme was continued and, in some sections, extended.

In July, as part of the government's plan to force down the cost of living, a 5% cut in the retail price of "utility" clothing was announced. All sections of the trade, including the manufacturers, joined in protesting against the cut but it was retained. The least part of the burden was allotted to the manufacturers, in anticipation of devaluation and the consequent rise in the cost of raw materials to the clothing industry.

Efforts to expand exports of British-made clothing went forward during the year, in spite of a falling demand for some kinds. On March 2 a United Kingdom Clothing Trade mission sailed for Canada to survey the market for all types of men's, women's and children's outerwear. Among its recommendations was one that the industry should consider the possibility of group representation and/or the setting up of a central marketing organization. It was also urged that greater use should be made of air transport, especially for fashions, and that greater freedom should be given to manufacturers to import the latest types of machinery. Towards the end of the year these ideas were still being considered, in consultation with the Board of Trade.

In general, the export trade in clothing was adversely affected by the growth of home industries in foreign countries, notably in Canada. Import restrictions also operated against Great Britain's industry. In March South Africa imposed a complete ban on most types of imported clothing.

The export target set at the end of 1949 for all clothing, including knitted wear, was a monthly average of £3 70 million. In the first quarter of the year the average was £2·70 million; in the second, £2·19; and in the third, £2·39.

Exports represented only a small part of the industry's total output. Their trend is indicated in the table.

TABLE — VALUE OF CLOTHING EXPORTS, GREAT BRITAIN

	Jan -June 1947	Jan -June 1948	Jan -June 1949
Men's and boys' clothing .	£2,766,043	£2,161,535	£1,885,560
Women's and girls' clothing .	£1,954,205	£1,141,025	£1,693,081
Rainwear . . .	£1,795,028	£811,988	£1,085,499

At home the industry continued its unsuccessful efforts to get purchase tax reduced or abolished. A rebate scheme, enabling retailers to recover, in the event of a reduction, tax already paid was worked out and sent to the chancellor of the exchequer. In the labour field, the industry granted, as from May 1, a fortnight's holiday with pay. At the same time it was agreed that wages should remain stabilized until March 1, 1950. (C. F. DN.)

United States. Clothing stocks fell in retail establishments as continued high prices made large reserves unduly speculative. Based on dollar volume, sales were about the same as in 1948, while unit sales were down. All piece goods' prices fell slightly.

An important factor was the increasing importance of synthetics in men's-wear. Rayon suitings increased in usage because of their lower price. Technical difficulties in cutting, sewing and pressing were almost entirely resolved by the end of the year. Blends of nylon and wool became of increasing importance.

The woollen industry was alive to the competition of synthetic materials; despite a universal lack of wool approaching a shortage, the Wool bureau was formed to publicize the benefits of woollen fabrics for apparel. The woollen and cotton industries seemed to be pulling together to meet a common threat. (S. L. S.)

COAL. During its first year of operation the National Coal board accounts showed a deficiency of £23,255,586 but during 1948 this was improved to a surplus of £1,651,965. The figures for 1949 were expected to show an increased surplus when they became available.

The forecasts made for coal production in 1949 were 202 million to 207 million tons of deep mined coal and 13 million tons of opencast coal. Actual production reached 215,113,800 tons, made up of 202,674,100 tons of deep mined and 12,439,700 tons of opencast coal. This compared with production in 1948 of 208·4 million tons, made up of 196·7 million tons deep mined and 11·7 million tons opencast. Exports averaged 14 million tons a week in 1949 compared with 10·7 million tons a week in 1948.

Early in 1949 a special committee under the chairmanship of Sir Eric Young, the production member of the board, was formed to tour the coalfields and suggest ways of raising

TABLE I.—LABOUR PRODUCTIVITY IN COAL MINES IN GREAT BRITAIN

	1948	1949
Face workers, end of year	294,100	293,700
All workers, end of year . . .	725,100	708 600
Shifts worked (average per week) .	4 93	4 79
Absenteeism		
Face (voluntary)	14 13	6 61
„ (involutary)		7 50
All workers (voluntary)	4 83	5 01
„ „ (involuntary) . .	6 64	6 61
Output		
Output man/shift/tons at the face .	3 00	3 11
Overall output . .	1 15	1 21

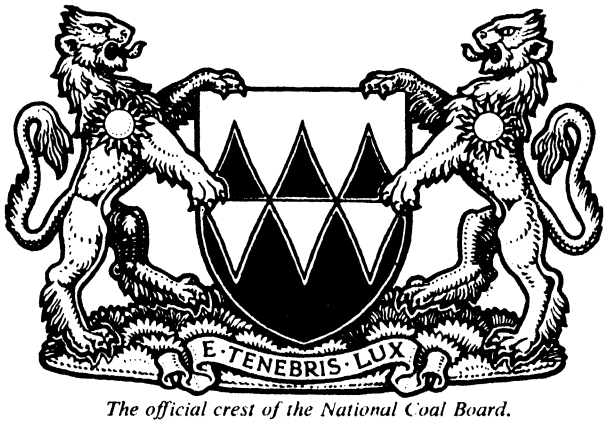
production and lowering costs. This committee published no report but it was interesting to note that the output of deep-mined coal increased by 3% over 1948 figures in spite of a drop of 16,000 men employed in or about the mines.

Before nationalization a mine which showed repeated losses over a period was closed regardless of social obligations and the loss of capital. Under nationalization the problem acquired a new aspect. The unprofitable mines must be closed but equally the mining personnel must be preserved. To achieve this object a plan was being operated successfully in Scotland where some 8,000 to 9,000 miners with their families were being transferred from the nearly exhausted coalfields of central Lanarkshire to the richer coalfields of Ayrshire and the Forth basin. The completion of the whole scheme would take 15 to 20 years but already 1,200 miners from eight abandoned collieries in Lanarkshire were working in the more profitable areas of Fife, Stirling and the Lothians of Scotland. To encourage migration the National Coal board guaranteed a house to every married man who was transferred and paid the fares and household removal expenses for him and his dependents.

When coal mines were nationalized £1,642 million was allocated for division among 21 coal mining districts as

compensation for loss of property. The district allocations from this total were announced during the year and steps were taken to divide these sums between the various colliery companies in each district. Considerable difficulty was likely to arise in view of the fact that the owners' total claims were said to amount to 50% more than the sum allocated.

Prices. In July 1948 the National Coal board adjusted the price of a number of coals in an endeavour to remove some of the more glaring anomalies created by the flat-rate increases imposed during and after World War II. These adjustments did no more than reduce the price of some of the poorer qualities with compensating increases in the prices of some of the better qualities. Further adjustments of a similar nature were made during 1949 as part of a long term national price structure scheme in which the quality of the different coals would be as far as possible reflected in their relative prices. It was not intended that the price revision should increase the board's revenue and increases in price would, as near as possible, be balanced by decreases. Generally the changes in the prices of coal for different categories of consumers were not substantial. There were, however, large variations, up and down, in the price of individual coal, increases on the one hand ranging from a few pence to 13*s.* a ton and decreases from a few pence to 15*s.* a ton.



The official crest of the National Coal Board.

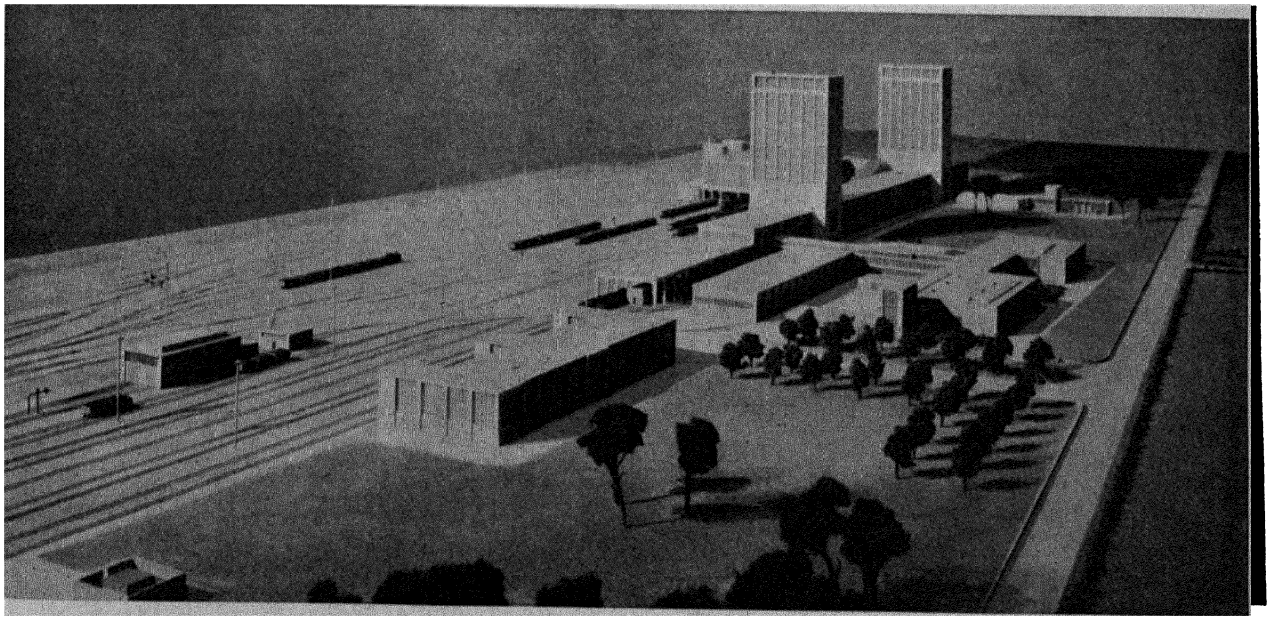
Mechanization. During the year mechanization made further strides and the bulk of the deep-mined coal was now undercut by machines and transported part of its journey to the pit-head by conveyors.

During the year great progress was made in internal re-organization of the industry. Neighbouring pits were closed and the workmen concentrated at the more economic units without involving a mass migration of workers. New haulage roads were driven or existing ones improved so that locomotives could be substituted for rope haulages. Colliery boundaries were re-adjusted and many local re-organizations effected. In addition a number of new collieries were planned and a start was made on some of the projects. Twenty-two major schemes covering various parts of the country and involving a capital expenditure of more than £29 million were initiated. They covered projects involving concrete-lined shafts 24 ft. in diameter sunk to a depth of 1,000 yd.; complete re-organization of underground haulage by driving stone drifts over 1,000 yd. in length; the introduction of skip winding; the use of underground conveyors 1,300 yd. in length; the use of large size underground trams in conjunction with skip winding; and coal preparation plants capable of cleaning 3,000 tons of coal a day.

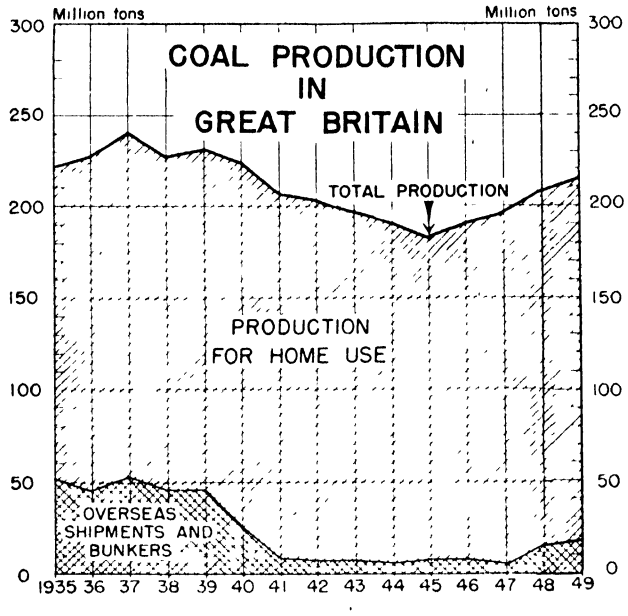
Substantial steps were taken towards standardization of mining equipment and stores. Before nationalization every mining company and even individual mines ordered their own supplies and this naturally led to a multitude of sizes, varieties, etc. In 1949 with central direction the purchase of supplies was organized and a degree of standardization achieved which was expected to reduce the cost of stores.

Underground Gasification. The possibility of gasifying coal *in situ* underground had been discussed since the beginning of the century and experiments were carried out in Russia, the U.S., Italy and Belgium which, though inconclusive, were not without some promise. In 1949 in Great Britain the test was made in a portion of a seam exposed in an open-cast working. No extravagant claims were made by the experimenters in regard to its success.

During the year the organization of the National Coal board was subjected to criticism by Sir Charles Reid, the



A model of the new Rothes Colliery at Thornton, Fifeshire, where lawns and shrubs will surround the pithead buildings. The cage gear will be enclosed in concrete towers.



chairman of the Reid Report committee and an ex-member of the board itself. His main points were: (1) the National Coal board should confine its activities to matters of policy and give the local directors full executive control in their own areas; (ii) in spite of 80% mechanization, the output at the coal face was still about three tons a manshift, about the same as in 1939 when only 56% of the faces were mechanized; (iii) nationalization had not drawn from the men any greater effort than did the system of free enterprise; (iv) the present impersonal system of administration did not satisfy the workmen. Similar criticism was made by the opposition in parliament.

Opencast Mining. Opencast mining continued to fill the gap between deep mined coal production and the demands of consumers including export. The average calorific value of opencast coal is less than that of deep mined coal, nevertheless 99% of the output was sold and consumed. There was no doubt that opencast mining had saved the country from a chronic fuel crisis during postwar years. It was believed that opencast activities, which should reach their peak in 1950, would gradually decrease over the following ten years. The cost was reduced from 52*s.* 11*d.* a ton in 1945 to 43*s.* 11*d.* in 1949 and the loss in sale from 17*s.* 8*d.* to 1*s.* 8*d.*

TABLE II.—DELIVERIES OF MACHINERY TO COAL MINES IN GREAT BRITAIN

	1948	1949*
Coal cutters	78	64
Power loaders	10	6
Conveyors	299	248
Conveyor belting (in thousand feet)	950	—
Underground locomotives	6	5

* Estimated figure.

The greatest evil from opencast operations is the despoliation of good agricultural land. Efforts were being made to restore the land to its former uses but no final verdict about the permanent effect could be made for 25 years. In 1949 some 36,000 ac. of land had been requisitioned for opencast operations.

Australia. Production of hard coal in Australia in 1948 amounted to 15,060,000 metric tons, or an average output of 1,255,000 tons a month. The year 1949 started badly with the output down to 770,000 tons in January but by May it had risen to 1,489,000 tons. The effects of the disastrous coal strike remained to be assessed. This strike led to further important developments in the mining of brown coal and lignite in opencast workings and these fuels played an increasingly important part in the internal economy of the Commonwealth.

Canada. The average monthly output of coal in Canada during 1948 was 1,274,000 metric tons. In 1949 it declined to 995,000 tons in August but went up again in September to 1,088,000 tons. New hydro-electric power schemes were being developed in the eastern and western provinces but these were necessarily long term projects. In the meantime two large steam power stations were being built in Ontario to meet the rapidly growing demand for power in industrial areas.

India. The total output of coal in 1948 was 15,060,000 metric tons (including 240,000 tons from Pakistan). Production had remained at a nearly steady level after 1939 but during the period from January to May, 1949, there was a small increase; the average monthly output being 2,718,600 tons compared with 2,525,000 tons during the corresponding period in 1948.

Northern Rhodesia. Joint exploration of this territory by the government, the British South Africa company and the copper companies of Northern Rhodesia was being carried out with the view to developing any suitable coal deposits that might be found.

Southern Rhodesia. There had been a steady increase in the coal output for many years to meet the industrial and domestic needs of a growing population. In 1948 the total output was 1,704,000 metric tons or an average of 142,000 tons a month. It was still going up and in Aug. 1949 amounted to 164,800 tons. This was not enough to meet the rapidly rising demands of the two Rhodesias. Wankie colliery was expected soon to increase output materially.

Union of South Africa. Production remained practically constant during the last four or five years in the Union. The total output in 1948 was 24,024,000 metric tons and during the first seven months of 1949 it remained at practically the same level. (J. A S R)

United States. The salient features of the coal industry in the United States are presented in Table IV.

The 1947 coal output surpassed that of all previous years, even the war peak of 1944, but the 1948 output was reduced

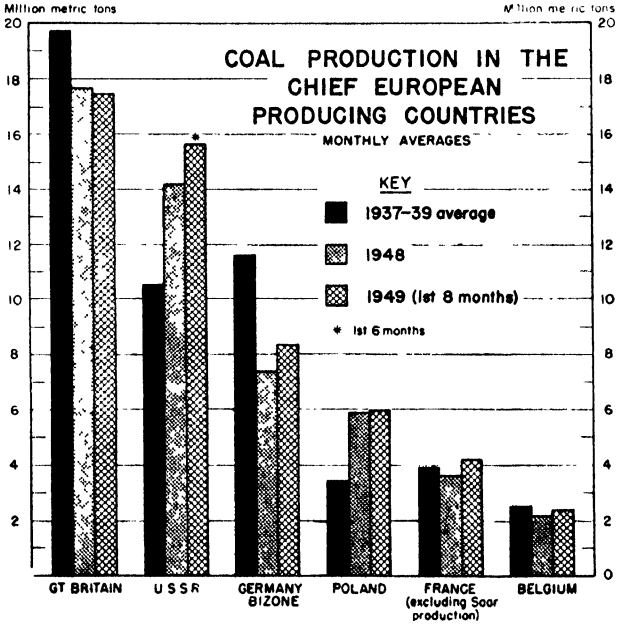


TABLE III.—PRODUCTION OF HARD COAL AND COKE IN EUROPE*

Country	Output of hard coal in Metric Tons 1948	1949 (estimated)	Percentage increase over 1948	Percentage of 1938 output	Output of coke in metric tons 1949 (estimated) Coke ovens	Gas works
Austria	177,600	190,000	7	83	988,400	427,200
Belgium	26,676,000	26,000,000	2 5	90	5,508,000	38,400
Czechoslovakia	17,748,000	16,800,000	—5·3	106	4,658,400	—
France	43,296,000	50,400 000	16	108	6,972,000	3,312,000
Ireland	180,000	120,000	—33	100	—	172,800
Italy	972,000	1 056,000	8·6	170	1 216,800	952,800
Netherlands	11,028,000	11,640,000	5·5	90	2,376,000	1,065,600
Norway†	436,800	435.000	0	140	—	55,200
Poland	70,260,000	73,200.000	4	105	5,198,400	417,600
Portugal	385,200	444,000	15	140	—	—
Saar	12.564,000	14,400,000	14 6	107	3,360,000	6,000
Spain	10,404,000	10,680,000	2 6	190	—	—
Sweden	264,000	200,000	—24	70	81,600	636,000
Turkey	4,020.000	4,140,000	3	155	—	—
United Kingdom	197,000,000	202,000,000	2 2	87	15,683,200	14,008,000
Western Germany	87,030.000	102,000,000	17	80	24,192,000	—
Yugoslavia	—	1,200,000	?	270	—	—
Totals	482,441,600	514,905,000	6·7	91		

* Based on data supplied by the Statistics Branch of the Ministry of Fuel and Power The estimated outputs for 1949 are based on results obtained during the first six to nine months. † Spitsbergen

nearly 5% by a strike over the unsettled work contract in the bituminous fields. The reduced output was offset by a sharp decline in exports in the second half of the year, and by a cut of 4% in consumption.

Work stoppages or restrictions were widespread in the industry in 1949, and production suffered accordingly. Up to Dec. 3, 1949, the bituminous output totalled 394,988,000 tons and the anthracite output 40,386,000 tons, a total of 435,374,000 tons—29% less than the total for the corresponding period of 1948.

TABLE IV.—DATA OF THE COAL INDUSTRY IN THE UNITED STATES 1944-48 (In thousands of short tons)

	1944	1945	1946	1947	1948
Production, total	683,278	632,551	594,429	687,814	656,658
Anthracite	63,701	54,934	60,507	57,190	57,140
Soft coals	619,576	577,617	533,922	630,624	599,518
Bituminous	617,022	574,949	536,254	627,750	596,432
Lignite	2,554	2,668	2,668	2,874	3,086

Canada. Coal production in Canada increased from 15,868,866 short tons in 1947 to 18,435,799 tons in 1948, and to 15,183,584 tons up to the end of Oct. 1949, as compared with 14,717,487 tons in the corresponding period of 1948. Imports rose from 30,564,129 tons in 1947 to 31,049,632 tons in 1948, but dropped sharply in 1949, the total up to the end of October being only 17,036,638 tons.

World Production. The production of coal in 1947 surpassed the 1939 level and followed with a 2% increase in 1948. Table V shows the outputs of countries normally producing tonnages in excess of the world total, along with the estimated world production. (G. A. Ro.)

TABLE V.—COAL PRODUCTION OF THE WORLD 1944-48 (In millions of short tons—all grades)

	1944	1945	1946	1947	1948
Canada	17·03	16·51	17·81	15·87	18·44
United States	683·27	630·93	592 51	687·81	656 66
Belgium	14·91	17·45	25 11	26·89	29·41
Czechoslovakia	54·31	29·84	37 01	42·53	45·56
France	29·30	38·60	54·34	52·16	49·75
Saar	?	?	8 69	11·56	13·85
Germany	403·60	164 22	251 95	271·49	294·41
Hungary	10·42	4·73	7·00	9 71	11·68
Italy	1·22	1·68	2·98	3·54	2·16
Netherlands	9·48	5·80	9·77	11·66	12·47
Poland	96·33	30·17	53·07	70·43	82·98
Spain	12·88	13·32	13·33	13·08	12·81
United Kingdom	215·88	204·71	214·81	221·14	233·44
U.S.S.R.	130?	160?	178?	193?	220?
China	69?	18?	17?	22?	10?
India	29·26	32·67	33·27	32·45	33·94
South Africa	24·91	25·47	25·63	26·25	25·97
Australia	20·99	20·93	21·96	23·48	24·71
Total World	1,935	1,487	1,629	1,821	1,862

COCHIN-CHINA: *see* FRENCH UNION.

COCOA. British West Africa was easily the world's chief producer of cocoa, the crop for 1948-49 being 278,000 tons in the Gold Coast and 109,000 tons in Nigeria, as against 208,000 and 75,000 tons respectively in 1947-48; the 1949-50 crops in both territories were forecast at about midway between the two previous crops. Despite the exceptionally favourable crop in 1948-49, which was well above the pre-war average, the spread of swollen shoot disease continued to threaten both the whole of the Gold Coast economy and the world's cocoa supplies. Destruction of infected trees offers the only known means of halting the disease, but some opposition by growers resulted in a suspension of the tree-cutting campaign in 1948; intensive propaganda and an increase in compensation payments, however, reduced this opposition so that cutting could be resumed under more favourable conditions. In Nigeria the disease was not yet widespread. All cocoa in the two colonies was purchased by the Gold Coast Cocoa Marketing board and the Nigerian Marketing board. The prices paid by the two boards declined in 1949-50, falling from about £120 a ton in both territories in 1948-49 to £84 in the Gold Coast and £100 in Nigeria.

Outside the Commonwealth, Brazil's crop for 1948-49 amounted to some 107,000 tons as against 85,000 tons in 1947-48, while in 1948-49 French West Africa and the Camerouns together provided some 90,000 tons.

The International Emergency Food committee fixed the distribution of cocoa exports for 1948-49 as follows: British West Africa, 387,800 tons; French West Africa, 78,000 tons; Brazil, 120,500 tons; and other Latin American states, 75,700 tons. Import quotas were fixed at 287,700 tons for the United States; 128,200 tons for the United Kingdom and 48,300 tons for France and French North Africa. As from June 9, 1949, however, allocation of cocoa beans by the I.E.F.C. ceased, current supply being considered adequate to meet effective demand.

British West Africa's cocoa exports were particularly important as a dollar earner, being second only to Malaya's rubber in this respect. Exports from the Gold Coast in 1948-49 reached 243,300 tons as against 191,400 tons in 1947-48; and shipments from Nigeria in the 1948-49 season totalled 107,200 tons as compared with 83,100 tons in the preceding season. Brazil's exports in the first six months of 1949 amounted to 39,800 tons, while those from the Dominican Republic for Jan.-Nov. 1949 were 19,100 tons. Imports into the United States, the world's chief consumer of cocoa, in the first ten months of 1949 amounted to 229,400 tons

as against 249,200 tons in the full year 1948. The United Kingdom took 108,000 and 147,000 tons in 1948 and 1949 respectively; the Ministry of Food was still the sole importer. Imports into other countries continued on a much smaller scale. (E. O. G.)

COFFEE. World exportable production of coffee in 1948-49 at 36 million cwt. was about 3 million cwt. above the estimate for 1947-48 but some 15% below the 1935-40 average. Latin America's output was estimated at 31,400,000 cwt. as against 28,250,000 cwt. in 1947 and a prewar average of 37,400,000 cwt. The main decline was in Brazil, which in prewar years produced on the average 26,700,000 cwt., but in 1948-49 only 19,400,000 cwt., and in Indonesia which produced only a fraction of its prewar output. Expansion of output was most marked in Colombia (6,700,000 cwt in 1948-49 as against a prewar average of 4,800,000 cwt.) and in the African colonial territories; the latter in 1948-49 were estimated to have produced 3,900,000 cwt., about one quarter of which was provided by British East Africa.

Total exports from Latin American countries (principally Brazil) in 1948 were about 32,500,000 cwt., as against 28,800,000 cwt. in 1947; about three quarters of the quantity in both years went to the United States. Exports being at a satisfactory level, quota restrictions under the Inter-American Coffee agreement continued inoperative. Total imports of coffee into the United States in 1948 amounted to 24,750,000 cwt. in 1948 as against 22,350,000 cwt. in 1947; the prewar average annual import was about 15,500,000 cwt. Europe's imports in 1948 hardly exceeded 8,500,000 cwt., or a little above half of the prewar average, dollar difficulties substantially restricting purchases from the Latin American countries.

The Ministry of Food was again the sole buyer for the United Kingdom. Imports in 1949 amounted to 880,000 cwt. as against 1,047,000 cwt. in 1948 and 401,000 cwt. in 1938, the increase being the result of the rationing of tea and increased purchasing power. The chief sources of supply in 1948 and 1949 were British East Africa and Brazil. Kenya's and Uganda's exports to all destinations in 1948 amounted to 286,000 cwt. and 756,000 cwt. respectively; the corresponding figures for 1949 were 143,000 cwt. and 433,000 cwt. respectively. Tanganyika's coffee exports in 1948 amounted to 225,000 cwt., and in 1949 to 373,000 cwt. (E. O. G.)

COKE: *see* COAL.

COLD, COMMON. No fundamental information was added to knowledge of the common cold in 1949, although intensive research was in progress at the National Institute of Health and at the Western Reserve Medical school in the United States and at the National Institute for Medical Research in England. C. H. Andrewes, director of studies at the last named laboratory, restated the problems involved in a series of questions: Is the common cold caused by viruses, by bacteria or neither? Is it an entity or a group of diseases? Can it be "caught" from a patient with a cold or activated in a person who harbours the causative agent or both? If it can be activated, how? What determines its seasonal incidence and why does resistance to it vary from person to person or in one person at different times? Andrewes succeeded in transmitting colds to volunteers by means of filtered exudates obtained from patients with colds, but was unable to confirm the work of U.S. investigators who reported the artificial cultivation of the filtrable agent. None of a large variety of animals could be infected. From his experiments on volunteers Andrewes concluded that colds are probably caused by viruses which constantly pass from one person to another, usually without causing symptoms, or only mild ones. A cold develops only in a person whose resistance is temporarily low. From such a person, virus is disseminated in large amounts, but few persons harbour it long and it probably dies out soon.

A report was made on the beneficial effects of anti-histaminic agents on the symptoms of the cold when given early in the course of the disease. It was assumed that the symptoms were caused by an allergic response of the mucous membranes to the protein of the cold virus or to other proteins. There was little doubt of the effectiveness of anti-histaminic agents for allergic rhinitis, but their value in preventing or treating the infectious cold was not positively established.

Clifford Kuh and M. F. Collen gave penicillin by mouth regularly to a large number of persons for a year and observed an equal number of untreated persons to see if penicillin had any value in the prevention of respiratory tract infections. Evidence was lacking that penicillin had any effect on the incidence of colds in the treated group. (*See* also EAR, NOSE AND THROAT, DISEASES OF.) (H. A. RN.)

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COLLEGES: *see* UNIVERSITIES AND COLLEGES.

COLOMBIA. A republic situated in northwestern South America adjoining the Isthmus of Panama. It is the only South American country with both Caribbean and Pacific coastlines. Area: 439,714 sq. mi. Pop. (mid-1948 est.): 10,777,000. Approximately 68% of the population is classified as mixed blood, 20% as white, 7% as Indian and 5% as Negro. Most of the inhabitants live in the highlands and mountain valleys of the interior. Language: Spanish. Religion: predominantly Roman Catholic. Chief towns (pop., 1945 est.): Bogotá (cap., 443,520); Medellín (219,790); Barranquilla (206,630); Cali (135,610); Manizales (109,820); Cartagena (101,520). President, Mariano Ospina Pérez.

History. The political situation in Colombia, acute since the assassination of the Liberal leader Eliécer Gaitán in April 1948, reached a new crisis in 1949 when the Liberals boycotted the presidential election and allowed the Conservative candidate to win virtually unopposed.

Frequent armed clashes between Liberal and Conservative partisans throughout the country caused about 40 deaths in the first three months of the year and induced Ospina Pérez to form a coalition cabinet in May. The Liberal ministers, however, resigned from it during the same month, charging the administration with restricting their party's activities in the congressional election campaign. The new cabinet, formed on May 22 and composed of 10 Conservatives and 3 army officers, decreed the suspension of all political gatherings, demonstrations and radio broadcasts from May 25 until three days after the congressional elections.

In the relatively quiet elections, June 5, the Liberal majority in the Chamber of Deputies was cut in half. The presidential election, originally scheduled for June 5, 1950, was advanced to Nov. 27, 1949, by a bill sponsored by the Liberals and approved reluctantly by the president in October. The major candidates were the Conservative, Laureano Gómez, former foreign minister, who returned in June from Spain where he had resided since the April 1948 riots in Bogotá, and the Liberal Darío Echandía, former minister of the interior.

Political clashes, killing hundreds and causing thousands to flee, continued throughout the country as the presidential

election neared. In October the Liberals, accusing the administration party of resorting to violence and impeding the registration of their partisans, withdrew their candidate and prepared to boycott the election. Meanwhile Ospina Pérez, declaring a nation-wide state of siege, dissolved the Liberal-dominated congress, imposed press and radio censorship, established an evening curfew, banned all public meetings, suspended all state legislature sessions and neutralized the Liberal majority in the supreme court by decreeing a three-fourths majority necessary to nullify presidential edicts. Troops were called out to patrol Bogotá.

Under these conditions the election was held Nov. 27, and the boycott of the Liberals, though not complete, gave the Conservative candidate an adequate majority. No significant violence occurred, although the brother of the Liberal candidate was assassinated two days previously. The Liberals observed election day as one of mourning. President-elect Gómez was scheduled to take office Aug. 7, 1950.

On the economic front Colombia's commercial indebtedness ($23 million for the first three months) was gradually reduced and was completely wiped out by November. A movement in October to devalue the peso by 15 to 20% was abandoned shortly when rising coffee prices promised substantial increases in the country's dollar income. Agricultural and industrial expansion continued throughout the year, financed in part by an Export-Import Bank loan of $10 million and a grant of $5 million from the International Bank for Reconstruction and Development. On the darker side, petroleum exploration declined in the face of new nationalization legislation for the industry. Meanwhile the cost of living continued at a high level, the working class index rising from 256 in March to 305 in August (Feb. 1937 100). In December the government ordered the establishment of a national minimum wage of two pesos a day, from Jan. 1, 1950. (M. L. M.)

Education. Schools (1945) primary 12,147, pupils 788,143, teachers 23,432, secondary and vocational 1,830, pupils 94,669, teachers 7,825 (1,421 primary and 606 other schools not reporting) There were six public and two private universities Approximately 7 4% of the 1945 national budget was allocated to public education. Illiteracy (1938). 44 2%, excluding aborigines

Agriculture. Main crops ('000 metric tons, 1948): coffee (1947) 296, maize 700; rice 120, wheat 117, sugar cane, raw value, 80, potatoes 500; tobacco 21; cotton 5 5 Livestock ('000 head, Dec 1947): cattle 13,902, pigs 2,070, horses 1,142, sheep 1,022.

Industry. (1945) Industrial establishments 7,853, persons employed 135,400 Fuel and power coal ('000 metric tons, 1942) 578; electricity (million kwh., 1948) 544 5, crude oil ('000 metric tons, 1948; 1949, six months, in brackets) 3,376 (2,065). Raw materials (1948) gold 335,260 fine oz , silver 108,716 oz , platinum 40,047 oz , salt 124,081 metric tons Manufactured goods (1948, six months) rayon yarn 3·5 million lb , cotton cloth 85 million yd ; woollen cloth 995,000 yd.; cement 175,000 metric tons.

Foreign Trade. (Million pesos) Imports (1948) 588, (1949, six months) 295, exports (1948) 507, (1949, six months) 264. Chief imports. motor vehicles, raw cotton, textile machinery, chief exports coffee, bananas, crude oil, gold, silver, platinum The U S. took 81% of the exports and supplied 59% of the imports in 1948.

Transport and Communications. Roads maintained by the government (1948): 7,200 mi Licensed motor vehicles (Dec 1948): cars 26,700, commercial vehicles 21,000 Railways (1946) 2,100 mi ; passenger-mi (1948) 540 million, freight net ton-mi (1948) 379 million. Air transport (1947) hours flown 78,148; miles flown 12,553,400, passengers flown 522,673, cargo carried 92,526 metric tons. Telephones (Jan. 1948). subscribers 57,300

Finance and Banking. (Million pesos) Budget (1949 est.) revenue 390, expenditure 390; national debt (Dec. 1948) 512; currency circulation (Sept 1949; in brackets, Sept 1948) 370·1 (300 1), bank deposits (Aug. 1949) 489·8. Gold and foreign exchange (Sept. 1949; in brackets, Sept. 1948). U S. $ 92 (78) million. Monetary unit: *peso* with an official exchange rate of £1=7·86 pesos before Sept. 18, 1949, and of £1=5·46 pesos since.

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COLUMBIA, DISTRICT OF: *see* WASHINGTON, D.C.

COMMERCE: *see* BUSINESS REVIEW; INTERNATIONAL TRADE.

COMMONS, HOUSE OF: *see* PARLIAMENT, HOUSES OF.

COMMUNIST MOVEMENT. The history of communism in 1949 was characterized by the growing emphasis on Russia's undisputable precedence in world communism and on Joseph Stalin's (*q.v.*) "infallibility" in the political, economic, scientific and artistic fields. Stalin's 70th birthday on Dec. 21 was celebrated with unprecedented solemnity throughout the Soviet Union, Communist China and the Soviet satellite countries of eastern Europe. On the occasion of this celebration Stalin could look with satisfaction on the immense expansion of his power after World War II. It was true that during 1949 the expansion of communism had been checked in Europe. Not only had there been a re-invigoration of democracy in all non-Soviet controlled European countries, but Communist Yugoslavia had successfully challenged the unlimited Soviet control over all Communist lands. But this relative setback in Europe had been more than outweighed by the great advance of Communist control in eastern Asia, where Communists occupied almost the whole extent of the Chinese republic and found themselves at the gates of Vietnam (Indo-China) and of Burma. Thus communism, at the end of 1949, controlled an area inhabited by about 700 million people and containing, in addition to the resources of the greatly expanded Soviet Union, those of Poland, Czechoslovakia, Eastern Germany, Rumania, Hungary and Bulgaria.

During 1949 Communist policy deepened its anti-western stand, especially in all fields of culture, science and the arts. The Communist central organ, *Pravda*, carried on Jan. 28 a violent article against six "anti-patriotic" theatre critics which was followed by a similar article in the weekly *Culture and Life* on Jan. 30. "Once and for all," *Pravda* declared, "we must decidedly put an end to the liberal tolerance of all these æsthetic nonentities who lack the healthy feeling of love of country and the people." The year 1949 was largely devoted to a programme of doing away with "this æsthetic drivel decisively, once and for ever." Similar constructive energy as to the fight against "decadent bourgeois art" was devoted in the Soviet Union and in its satellites to depict in films, plays and novels the moral decadence and the economic oppression prevailing in the United States and to denounce the warlike intentions of the U.S. and Great Britain. Vocal support for the "peace loving" Soviet policy against the "war mongering" of the western democracies was organized among non-Russian intellectuals through the various Communist-sponsored "peace" congresses. The most violent attacks, however, were reserved in the domestic field for what was called "homeless cosmopolitanism" and "belittling" of the leadership of Russia in all fields of culture. Russian priority was claimed for many scientific inventions.

This policy within the Soviet Union went hand in hand with an attempt to tighten Communist control over the satellite states. The main instrument of this policy was the Communist Information bureau, or the Cominform. It was established on Sept. 22-23, 1947, in the former hunting lodge of Hermann Goring, at Wilcza Góra (Wolves' Hill), on the northern slopes of the Giant mountains, Poland. The second plenary meeting of the Cominform took place in June 1948 at Sinaia, Rumania, and it was there that an attack against the Yugoslav Communist government was launched. In Nov. 1949 the Cominform met at a luxury hotel in the Matra mountain area, in Hungary, and adopted a number of resolutions directed against "Anglo-American imperialism," the "enslaving Marshall plan," the "reactionary trade union leaders, the accomplices of the warmongers, who conceal their betrayal in pseudo-Socialist cosmopolitan phraseology," and the "traitorous Tito-Ranković clique," the Yugoslav

Communist government which was accused of conducting a provocative campaign against the U.S.S.R., "using the foulest provocations, borrowed from the arsenal of Hitler." There could be no doubt that the long and successful resistance of Marshal Tito and his fully Communist government to the "cold war" waged against them by the Soviet Union and the Cominform did much to weaken the influence of Moscow among Communists and fellow travellers.

The actions of the Cominform and the unquestioning loyalty which Moscow demanded from Communists everywhere made it clear that the Communist International, though officially disbanded in 1943, was stronger than ever. In that sense Gheorghi Dimitrov (*see* OBITUARIES), the Bulgarian Communist leader, wrote on Dec. 18, 1948: "It should not be forgotten that—in spite of the fact that the Communist International does not exist—all Communist parties in the world form one single Communist front, under the direction of the most powerful and most experienced Communist party, the party of Lenin and Stalin; that all Communist parties have one common scientific theory as a guide to their actions—Marxist-Leninism; and that all Communist parties have one leader and teacher, recognized by all—Comrade Stalin." In that connection the leaders of the French and Italian Communist parties, Maurice Thorez and Palmiro Togliatti (*q.v.*), declared on Feb. 22 and 26 respectively, that in case of a war with the Soviet Union the workers of France and Italy would show the same attitude towards the Soviet army as did the people of Poland, Rumania and Yugoslavia. Harry Pollitt, secretary general of the British Communist party, stated on Feb. 28 that in the event of an aggressive war against the U.S.S.R., the party would organize strikes to prevent that war from being carried through. William Z. Foster and Eugene Dennis, respectively national chairman and secretary general of the U.S. Communist party, on March 2 backed these declarations of loyalty to the Soviet Union.

The Moscow leadership took strong measures in all European satellite countries to assure an unswerving loyalty to its commands on the part of the local Communists. Purges were conducted in all the Communist parties, and even some of the most prominent Communist leaders became their victims.[1] Among them were László Rajk in Hungary, Traicho Kostov in Bulgaria, and Koçi Xoxe in Albania, who were executed (*see* OBITUARIES), while the Greek Communist leader, Markos Vafiades, and the Polish Communist leader, Władysław Gomółka (*see* POLAND), were disgraced. No such measures were necessary in China, where the Communist party, under the leadership of Mao Tse-tung, Chou En-lai (*qq.v.*) and Liu Shao-chi, followed faithfully the Moscow line and repeated wholeheartedly the sharp Communist attacks against the United States and the democratic countries. The establishment of the Communist People's Republic of China on Oct. 1 was hailed by the Soviet historian, Evgheny Tarlé, in *Izvestia* as one of the two "stupendous events" of the year, the other being the end of the U.S. monopoly of atomic bombs.

The Communist victories in Asia had no counterpart in Europe. There, even in countries bordering on the Soviet Union or partly under soviet influence, such as Norway, Finland and Austria, communism was fast losing whatever hold it had on the working masses. The Communist-led strikes in Finland, which started in August, ended within four weeks with a complete victory of the anti-Communist government; in the elections to the Norwegian parliament (Oct. 10) no Communist candidate was elected; and at the elections in Belgium (June 26) the Communist vote was 7·5% instead of 12·7% as in 1946 (*see* ELECTIONS). In Italy, Togliatti himself announced on March 25, 1949, that the party's membership was 1,896,634 as compared with 2,283,000 in Sept. 1948. At its annual conference at Bridlington, Yorkshire, the British Trade Union congress on Sept. 6 endorsed by 6,746,000 to 760,000 votes a report, moved by Vincent Tewson for the general council, drawing attention to the necessity of combating Communist interference in the trade unions. Similarly the Communists lost much of the influence which they had gained in the last 20 years in the U.S. labour movement. The Congress of Industrial Organizations withdrew from the Communist-controlled World Federation of Trade Unions and was responsible, together with the American Federation of Labour, for the creation of an anti-Communist International Confederation of Free Trade Unions (*see* TRADE UNIONS). The C.I.O. convention in Cleveland, Ohio, at the beginning of November expelled two affiliates, the United Electrical, Radio and Machine Workers of America and the United Farm Equipment and Metal Workers of America, accusing them of being creatures of the Communist party, masquerading as trade unions. Similarly, Great Britain's largest trade union, the Transport and General Workers' union, voted to bar Communists and members of the British Fascist union from holding office in the union.

COMMUNIST PARTY PARLIAMENTARY REPRESENTATION IN EUROPE*

	Last election	Votes obtained	% of total votes	Total seats	C P. Seats
Austria	Oct. 9, 1949	212,651	5·0	165	5
Belgium	June 26, 1949	376,876	7·5	212	12
Denmark	Oct. 28, 1947	141,094	6 8	149	9
Finland	July 1-2, 1948	—	—	200	33
France	Nov. 10, 1946	5.475,955	28·2	619	182
Germany, Western	Aug. 14, 1949	1,360,443	5 6	402	15
Great Britain	July 5, 1945	102,780	0 4	640	2
Iceland	Oct 23, 1949	14,077	19 5	52	9
Ireland	Feb 4, 1948	nil	—	147	0
Italy	Apr 18-19,1948	8,025,990†	30 7	574	132
Luxembourg	June 6, 1948	- -	16·9	51	5
Netherlands	July 7, 1948	381,953	7·9	100	8
Norway	Oct. 10, 1949	101,666	5 8	150	0
Sweden	Sept. 19, 1948	241,812	6 4	230	9
Switzerland	Oct 27, 1947	-	—	194	7

* Only European countries having a parliamentary system and free elections are included

† This represents the number of votes obtained by the Democratic Popular front, that is, the Communist and the Left-wing Socialist party led by Pietro Nenni But out of 183 deputies elected under the front's banner 132 were Communists

The 12 top leaders of the Communist party of the United States who were indicted by a special federal grand jury on July 20, 1948, were tried (with the exception of W. Z. Foster who was ill) before Federal Judge Harold R. Medina from Jan. 17 to Oct. 14, 1949, when they were found guilty by the jury of secretly teaching and advocating on secret orders from Moscow, the overthrow of the U.S. government and the destruction of American democracy by violent means. Ten of them were sentenced to five years' and one to three years' imprisonment and all were fined $10,000 each, but an appeal was made against the verdict. The small vote which the American Labour party cast at the mayoralty elections in New York city in Nov. 1949, the dissolution of the American Youth for Democracy, a Communist-front organization on college campuses, and the decline of the influence of the American Slav congress, a Communist-front organization among the U.S. citizens of Slav descent, all pointed in the same direction. A similar weakening of Communist influence, especially in the labour movements, became visible in Canada, Australia and New Zealand.

1 According to *Partiinaya Zhizn* (Oct 1947), the official periodical of the Soviet All-Union Communist party, there were 6 million party members in the U S S R , 2¼ million in Italy, 2 million in China, 1½ million in Czechoslavakia, 1 million in France, 800,000 in Poland, 700,000 in Rumania, 500,000 in Bulgaria, 400,000 in Yugoslavia, 100,000 in Belgium, 50,000 in Holland, 48,000 in Sweden and 43,000 in Great Britain The estimated circulation of three of the Communist daily newspapers, which gives an indication of the party's influence, was · *L'Unita*, (Italy) weekdays 485,000, Sundays 850,000 , *L'Humanité* (France) 450,000; *Daily Worker* (Great Britain) 110,000.

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CONGO, BELGIAN: *see* BELGIAN COLONIAL EMPIRE.

CONGREGATIONAL CHURCHES. The sixth International Congregational council met at Wellesley college, Massachusetts, in June 1949, and comprised 225 delegates from every continent in the world including 75 from the British Isles. There were no representatives from Czechoslovakia or Bulgaria; in the latter country Congregational ministers were among those charged by the government with offences against the state and were sentenced to long terms of imprisonment. At the International Congregational council Dr. Douglas Horton of New York was elected moderator for the next five years.

In England the Congregational Union of England and Wales considered the replies of the churches to the scheme of union with the Presbyterian Church of England. Comparatively small groups were in favour of the scheme or totally opposed it; a large majority deemed organic union either unwise or inopportune, but declared themselves strongly in favour of closer co-operation between the two denominations. The congregation of the Presbyterian Church having expressed similar views, the assemblies of the two denominations agreed that action on the lines of the scheme of union was impossible, but decided on a joint assembly in 1950 to covenant together with the object of co-operating in all possible ways.

The Home Churches fund of the Congregational Union of England and Wales had its first full year in operation, and a minimum stipend of £290 plus manse (or equivalent) free of rent and rates was paid. It was ruled that Congregational ministers ranked as self-employed persons under the National Health act.

The Rev. A. M. Chirgwin, the general secretary of the London Missionary society (the missionary agent of the Congregational Churches), was due to retire, and the Rev. Maxwell O. Janes, southern moderator of the Congregational Union of England and Wales, was appointed to succeed him. The international situation presented the society with difficult problems in China, India and Madagascar.

The colleges of the denomination were faced with a critical situation as the ex-servicemen with government grants began to leave. The problem was twofold—to secure on the one hand sufficient candidates for the ministry and on the other to maintain income at a time when the resources of the churches were falling and investment income had seriously diminished. The principal of one of the colleges, Dr. H. F. Lovell Cocks, of Western college, Bristol, was elected chairman of the Congregational Union for 1950-51. (A. PE.)

United States. The Congregational Churches of the United States, established at Plymouth, Massachusetts, in 1620, had 5,715 churches in 1949. The denomination reported 1,184,661 members for the year, 534,118 church school members and 5,839 pastors. Total contributions received for home expenses were $27,477,429; for benevolences, $5,596,949; value of church property was $241,351,575.

The Congregational Christian Churches were planning a merger with the Evangelical and Reformed Church to be consummated at Cleveland, Ohio, in June 1950. This would unite two church bodies, one of English ancestry, the other with German and Swiss background, and would involve uniting the educational, missionary and publishing agencies of the two church bodies. (*See* also CHURCH MEMBERSHIP.)

CONGRESS, U.S. The first session of the 81st congress, meeting in regular session from Jan. 3 to Oct. 19, 1949, added a total of 793 laws to the statute books, of which 440 were public and 353 private. During the session, the longest in peacetime since 1922, 3,160 measures were introduced in the Senate and 7,467 in the House of Representatives. President Harry S. Truman vetoed 32 bills; not one of his vetoes was overridden.

The Democratic party had a safe numerical majority in both the Senate and the House, but the effectiveness of its control was lessened on many domestic issues by the coalition of southern Democratic members with the Republican minority. At the start of the session there were 54 Democrats and 42 Republicans in the Senate and 263 Democrats, 171 Republicans and 1 American Labour party in the House of Representatives. Representative Sam Rayburn (Texas) was elected speaker of the House, the post which he held in the 76th-79th congresses, and Senator Kenneth D. McKellar (Tennessee) was elected president *pro tempore* of the Senate pending the inauguration of Alben W. Barkley (*q.v.*) as vice president on Jan. 20, 1949.

On June 28, Senator Robert F. Wagner (Democrat, New York) resigned because of ill-health. Under a state law of 1947, the governor of New York, Thomas E. Dewey, appointed John Foster Dulles (Republican) to fill the vacancy until Jan. 1950. In an election on Nov. 7 Herbert Lehmann (Democrat) received 2,573,934 votes and Dulles 2,377,641. Also on Nov. 7, elections were held for seats in the House of Representatives for New York (Brooklyn) and California (5th district). Mrs. Edna Kelly (Democrat) was elected for Brooklyn and John F. Shelley (Democrat) won the California seat from the Republicans.

In November William Benton was appointed by the governor of Connecticut, Chester Bowles, to fill the vacancy in the Senate caused by the appointment of Raymond E. Baldwin (Republican) to the Connecticut supreme court.

In his annual state of the union message to congress on Jan. 5, President Truman called for extensive social legislation and measures to combat inflation along the lines of the programme on which he had fought the 1948 presidential election. The keynote of his programme was that "every individual has a right to expect from his government a fair deal," and it was immediately characterized in the press and elsewhere as the Fair Deal.

The administration's domestic programme made slow headway, and most of its "must" measures were still to be acted upon by one or both houses of congress at the end of the session. Prominent among them were the compulsory health insurance programme, universal military training, the federal civil rights programme, liberalization of the Displaced Persons act of 1948, expansion and liberalization of the federal social security programme and imposition of $4,000 million of additional personal and corporate taxes. The administration suffered perhaps its most resounding defeat in the rejection by both houses of congress of proposals for outright repeal of the Taft-Hartley labour act and re-enactment of the Wagner act of 1935 with a few amendments.

On the positive side, from the point of view of the administration, congress approved the Fair Labour Standards act amendments of 1949, the Housing and Rent act of 1949, which extended federal rent controls to June 30, 1950, but made provision for local decontrol, the Housing act of 1949, which authorized a long-range public housing, slum clearance and rural housing aid programme and the National Security act amendments of 1949, which placed the defence establishment under the executive control of the secretary of defence.

With the exception of the Point Four programme for the development of backward areas, the administration's foreign programme was enacted with the support of both Democrats

and Republicans. The Senate rejected all efforts to qualify the North Atlantic treaty and consented to its ratification on July 21 by a vote of 82 to 13. The Mutual Defence Assistance act, which authorized the appropriation of $1,314 million for arms for friendly foreign nations, was passed by both houses on Sept. 28. On April 14, both houses approved a bill authorizing the appropriation of $5,430 million for the period April 1, 1949-June 30, 1950, and on Sept. 29 they approved a bill appropriating $5,659,990,000 for foreign economic aid, of which $4,702,380,000 was for the European Recovery programme. (J. W. Mw.)

CONGRESS OF INDUSTRIAL ORGANIZATIONS: *see* TRADE UNIONS.

CONNALLY, TOM (THOMAS TERRY), U.S. senator (b. McLennan county, Texas, Aug. 19, 1877), graduated from Baylor university, Waco, Texas, and from the University of Texas, Austin, Texas. He was elected to the Texas House of Representatives in 1900 and again in 1902. In 1916 he was elected to the U.S. House of Representatives, where he served for six successive terms. He was elected to the U.S. Senate in 1928 and was re-elected in 1934, 1940 and 1946. At the close of World War II, during most of which he served as chairman of the Senate foreign relations committee, he attended the United Nations Conference on International Organization at San Francisco, as vice chairman of the U.S. delegation and was also a delegate to the first U.N. general assembly in London and New York in 1946. He attended the Council of Foreign Ministers sessions in Paris and New York in 1946 and the peace conference in Paris the same year. When the Republican party gained control of the 80th congress, Connally, a Democrat, relinquished the chairmanship of the Senate foreign relations committee, but during that time worked with Republican Senator Arthur H. Vandenberg on a bipartisan approach to foreign policies. In 1949 he resumed the chairmanship and steered the North Atlantic treaty through the Senate in addition to the European aid bill and the Military Assistance programme supplement the Atlantic treaty.

CONSERVATIVE PARTY: *see* POLITICAL PARTIES, BRITISH.

CONSUMER CREDIT. During 1949 traders in all parts of Great Britain reported a substantial increase in the demands that were being made upon them for credit facilities for the purchase of consumer goods. The tendency for the situation to change in this way had become apparent in 1948, but during 1949 it became much more marked. Not only had the surplus of ready money in the hands of the purchasing public, which had accumulated by reason of savings during the war years and by the payment of service gratuities, become exhausted, but there was a very much larger variety of goods on the market competing for such cash as was still available. The cost of living still remained high, and with these various influences at work an increase in the amount of consumer credit that had come to be granted was hardly surprising.

Although the increase was not confined to any one particular type or method of consumer credit granting, it was probably most marked in the hire purchase field. Such items as furniture, domestic appliances, radios, refrigerators, cycles and motor cycles were largely sold on this system, and traders handling these lines in some districts reported that, unless they could extend credit to their customers, they would be unable to keep their stocks turned over.

In August, and again in September, restrictions were relaxed on a considerable number of articles which, until then, had prevented the making of a service charge for hire purchase or credit sale transactions. For example, until these restrictions were lifted, it was not possible to sell a camera on hire purchase terms and to add a service charge to cover the additional cost of the credit to the retailer. The easing of this control enabling a further range of goods to be sold on hire purchase terms also contributed to the increase in the amount of consumer credit that was granted during the year.

The increase, large as it was, would probably have been even greater had it not been for the continuation of the policy laid down by the Treasury some years previously restricting the amount of finance which could be made available for hire purchase transactions on consumer goods. Before World War II a high percentage of such transactions had been financed not by the retailer himself but by the banks or by the specialized finance houses. The effect of the Treasury restriction made it impossible for these sources to accept all the increased business offered to them, and some retailers reported that they were unable to grant any further hire purchase credit owing to the fact that they themselves were unable to obtain the additional financial backing they required.

An increase was also noticed in the length of credit being granted. On open credit accounts, longer time was required before the account was to become due for payment, and those customers who were discussing hire purchase agreements were found, in a high percentage of cases, to ask for the agreement to be drawn so as to cover a longer period than would have been the case a year or so previously.

During the year, collections on amounts outstanding appeared on the whole to be satisfactory, although in one or two quarters a tendency to slowness was reported. The full employment of the community, which had continued throughout the year, was obviously an important factor in bringing this about and, where proper care had been exercised in checking the credit standing of the customer prior to the opening of the account, overdues were not high. (C. C. Ws.)

United States. Consumer credit, as reflected by consumer debt statistics published by the board of governors of the federal reserve system, reached an unprecedented high level in the United States during 1949, when more than $17,000 million receivables were reported held by retail and service establishments and by consumer cash loan agencies. Not only was the amount of such debt unequalled, but the rate of its growth was also notable, for during the past decade this type of consumer debt had doubled, and since 1943, a wartime year when it was abnormally low, had increased threefold.

The increase of total consumer debt since World War II was attributable almost entirely to the increase of instalment debt, particularly that arising from the sale of automobiles.

Notwithstanding the marked growth of consumer debt in absolute amount, its increase was relatively less than the over-all growth of the entire economy since 1939. Consumer debt increased, but so also did the means of paying debt and the general setting in which the debt arose. It was true that whereas consumer debt in 1939 was $7,000 million, in 1949 it was $17,000 million. Nevertheless, while such debt increased to 2·42 times what it had been a decade before, personal disposable income remaining after payment of taxes was, in 1949, 2·75 times what it had been in 1939. Similarly, personal savings made during 1949 were more than six times as much as in 1939.

The quantity of consumer debt outstanding was no more significant than its qualitative aspects, and in 1949, besides attaining unprecedented volume, consumer credit also showed certain characteristics attributable to circumstances peculiar to that year. During 1949 consumer credit terms were made easier and collections were retarded as a result of increased competition among sellers for consumer purchases

and the expiration of legal restraints imposed by the Federal government upon instalment sales. On the one hand, terms were affected by increased competition which reflected the growing availability of consumer durable goods following World War II and the curtailed demand resulting from reductions in employment and in factory pay rolls. Pressures upon sellers also arose from threats of economic instability hinted at by a declining rate of physical production and by a drop in many wholesale and retail prices. In order to open broader markets and to appeal more effectively to marginal income groups, easy credit terms were offered widely. On the other hand, the expiration of regulation W, providing through federal authority for minimum down payments and maximum credit periods, accentuated the trend towards competition in credit terms. Reinstated on Sept. 20, 1948, following a brief lapse, regulation W was partially relaxed on March 7, 1949, when the maximum maturity on all consumer instalment contracts was made uniformly 21 months, instead of 15 to 18 months, and the required down payment was reduced from 20% to 15%, except in the case of automobiles, where the down payment remained at 33⅓%. The regulation was further relaxed on April 27, 1949, when down payments for articles other than automobiles were further reduced to 10% and all maximum maturities were increased to 24 months. At the same time, all sales amounting to less than $100 were thereafter exempted from regulation. Finally, on June 30, the authority of the federal reserve board to regulate consumer credit expired.

The predictable effect of the passing of legal restraints upon consumer credit, especially in the face of tightening sales conditions, was a noticeable breaking away from prevailing terms. This was the case mainly in instalment credit, for charge account regulation expired in 1948 with little evident effect upon that form of credit. In the instalment field, however, the termination of regulation was accompanied by general elimination of down payments on radios, television sets, refrigerators, furniture and the like, and by the common extension of the payment period up to 24 months. Terms on automobile credit were made easier than for most other commodities. In the case of soft goods, too, credit terms were made easier by the elimination of the down payment and the extension of time to from 6 to 12 months.

Another development in consumer credit was the slowing down of the rate of collections, particularly characteristic where sales were in large measure made on instalment credit. Within a 12-month period, for example, monthly ratios of collections to beginning-of-month outstandings dropped 22% in furniture stores, 24% in household appliance stores and 19% in jewellery stores. Department stores, on the other hand, fared better, for there appeared to be no appreciable change in the collection of either their instalment or charge accounts during the same period of 1949. (R. BA.)

CONTRACT BRIDGE. For the second year in succession the winners and runners-up in the European championship of 1949 were respectively Great Britain and Sweden; Denmark finished third. The contest was played in Paris from July 4-10, 11 countries taking part. The British team was M. Harrison-Gray, K. W. Konstam, L. Dodds, E. Rayne, B. Shapiro, T. Reese and A. Meredith. The women's event was won by Denmark (winners in 1948 also) with France second and Italy third. Great Britain, whose team was Mrs. A. L. Fleming, Mrs. F. Gordon, Lady Rhodes, Mrs. L. Litante, Mrs. P. Williams and Mrs. M. Lester, finished fourth.

The champion team of America, S. Stayman, G Rapee, J. Crawford and P. Leventritt, played a match in London during May for the Crowninshield cup, presented by an American for a contest between the leading English and American players. The English players, who won by a narrow margin, were M. Harrison-Gray, K. Konstam, B. Shapiro, T. Reese, Ewart Kempson, L. Dodds, E Rayne, J. Pavlides, G. Mathieson and Mrs. R. Markus. The first four, who represented Crockford's club, gained a lead of 2,950 in the first half of the match. The American team also lost to the Lyndhurst club, whose team was, L. Tarlo, H. Franklin, Dr. H. Leist, A. Meredith, Dr. M. Rockfelt and A. Rose.

For the first time in the history of the Gold cup, Britain's premier team contest, a Scottish side reached the final. The cup was, however, won by Graham Mathieson's London team. The annual North-South contest was won by the South who now led 7-6 in the series. The international contest between England, Scotland, Wales, Northern Ireland and the Bridge association of Ireland, was won by England.

The most successful tournament player during the year was Graham Mathieson of London who won six major events.

A regular bridge feature was carried by each of the following London newspapers: *The Times*, *Daily Telegraph*, *Star*, *Evening News* and *Evening Standard*. The *Bridge Magazine* and the *Contract Bridge Journal*, two magazines entirely devoted to bridge, were published every month. Bridge was also a comparatively regular feature in the B.B.C. light programme. (E KN.)

United States. In January new laws for duplicate bridge were released. For the first time, these laws were an international code, adopted by the European Bridge league's members as well as in the western hemisphere.

In bidding, the principal development was the adoption of point-count valuation by Charles Goren of Philadelphia, Pennsylvania, one of the principal authorities. Under this method, based on calculations originally made by W. M. Anderson of Toronto, Canada, each ace is counted as 4 points, king 3, queen 2, knave 1; 1 point is added for each doubleton in the hand, 2 for each singleton, 3 for each void. A hand of 14 points or slightly less is considered biddable, and a combined partnership count of 26 or more justifies bidding game.

In November the New York metropolitan women's pair championship was won by a Negro pair, Doris Brooks and Geralding Gibson, and Mrs. Brooks also won the mixed-pair contest, paired with a white partner, M. C. Keller. G. Rapee, New York, won the individual Master's championship for 1949. (E. CUL.; A. H. MD.)

CO-OPERATIVE MOVEMENT. In 1948 retail sales amounted to £490 million, as compared with £434 million in 1947. Trading surplus, at £45,921,000, was a little lower than in 1947, despite increased sales, because of price-cutting at the government's request, a policy which could not be sustained when it threatened seriously to affect dividends on purchases without leading to any large increases in membership. Dividends on purchases, at £35,461,000, were nearly the same as in 1947, but at a reduced rate on the £1 of sales. Share capital fell from £247 million to £243 million. Wages and salaries advanced from £57,453,000 to £63,549,000. The co-operative wholesale societies of all types increased sales from £293 million to £331 million, but trading surpluses fell from £14 million to £12 million. The total production value of all co-operative productive agencies was £181,586,000, as against £157,569,000 in 1947. Of the 1948 total, £103 million was accounted for by the two major wholesale societies, English and Scottish, £60 million by retail societies and £18 million by others, including the producers' societies (about £5,500,000).

The principal development in British co-operation during 1949 was the inauguration of "national membership," to which most of 1,000 retail societies were parties. This system

was designed to enable any member of a participating society to receive dividend on purchases made at any such society's shops. It is still too soon to judge the effects of national membership: the chief complaint against it was the heavy book-keeping involved, as each society had its own rate of dividend on purchases. There were proposals to simplify the scheme by making dividends on purchases payable at a uniform rate.

In 1949 the figures of co-operative registrations under food rationing showed few changes as compared with 1948. The co-operative societies held over 13 million registrations for sugar and for milk, and nearly the same number for butter and fats and also for cheese. For bacon they held 11,732,000; for eggs 10,029,000, and for other meat 7,236,000. For coal, registration was on a household basis and the co-operative total of 2,653,833 was well over one-fifth of the total. In other branches of trade, co-operative trade accounted for about the following proportions of national trade: dairy products 32%; bread and grocery 16%; meat 12%; boots and shoes 10%; tobacco 8%; clothing, furnishings and hardware 6-7%; pharmacy 6%. In other commodities the co-operative share in retail trade was relatively small. These figures indicated that the co-operative societies were barely holding their own in competition with other trading agencies. Expansion was limited because of restrictions on building and difficulties in getting permits from local authorities to open new shops. There was some buying up of private businesses and development of self-service stores and travelling shops.

During 1949 there was much discussion between the Labour party and the co-operatives in an endeavour to arrive at a clearer line of demarcation between spheres of public ownership and co-operative enterprise. The question was brought to a head by the Labour party's proposal in its draft election programme for 1950 to nationalize industrial insurance. This would have involved taking over the co-operative insurance society; and strong protests by the co-operative leaders led to a change in the government's plans. The Labour party now proposed to leave in being all insurance societies run on a " mutual " basis and to convert the profit-making insurance companies into mutual societies. The Co-operative-Labour discussions also ranged over a wider field, including the marketing of agricultural produce and of coal and the entire future organization of retail distribution. They were still unfinished in December; but it had become clear that co-operators were insisting on having more account taken of co-operative aspirations in the framing of Labour policy.

No conference of the International Co-operative alliance, which still included countries of eastern Europe as well as of the west, was held during 1949. In the international field the main events were a considerable expansion of the revived co-operative movement in Western Germany, a further growth of co-operatives in the British colonies, especially in West Africa, and an increase in educational work, especially in training co-operative leaders for work in the less advanced areas. East of the " iron curtain," there was a further rapid growth of state-controlled agricultural co-operatives in the satellite states and also in Yugoslavia. In Palestine the Israeli government continued to promote co-operative enterprise. The International Co-operative alliance, with headquarters in London, increased its activities after the Prague conference of 1948 and avoided a doctrinal split. It collaborated actively with economic agencies attached to the United Nations and with the International Labour organization. (G. D. H. C.)

United States. In 1949 there were about 10 million members of various types of U.S. co-operatives including agricultural marketing associations, credit co-operatives or credit unions, consumer co-operatives, insurance, housing, health and medical care, publication and broadcasting and other enterprises.

The outstanding development of co-operatives in 1949 was an increase in co-operative housing and a drive for legislation in middle income housing. At the close of 1949 more than 100 co-operative housing projects were in operation serving over 30,000 families. These projects included all types of homes from city apartment houses in New York to small 10-family projects of individual homes in rural and suburban areas.

In the field of medical co-operatives, the Co-operative Health Federation of America and the American Medical association reached a working agreement on the role of co-operative and pre-payment medical care in the U.S. economy and a number of new co-operative health associations were established. Membership continued to increase in prepaid medical care plans and co-operative hospitals.

In retail food distribution about 1,000 co-operative food stores handled a volume of business estimated at about $100 million retail, with branches from Massachusetts to California.

Farm supply co-operatives continued to be the largest single volume business in the consumer co-operative field, with sales of nearly $1,000 million in seed, feed, fertilizer, farm machinery and other farm supplies.

Marketing co-operatives represented more than half of the U.S. families with a volume of business of over $3,000 million. There were 13 major fields of marketing, including dairy products, grain, citrus fruits, wool, poultry products and so forth.

Internationally the co-operatives continued to make headway. The largest Co-operative for American Remittances to Europe, better known as C.A.R.E., had distributed nearly $100 million worth of relief packages (food and textiles) abroad since it was established late in 1945. Another, the International Co-operative Petroleum association, was completing its second year of operation and was shipping petroleum products from the co-operatives in America to co-operatives in South Africa, Australia, New Zealand, France, Scotland, Yugoslavia and other countries. (W. J. CL.)

CORN: *see* GRAIN CROPS.

COSMETICS: *see* SOAP, PERFUMERY AND COSMETICS.

COSTA RICA. A Central American republic, located between Nicaragua and Panama. Area: 19,238 sq. mi. Pop. (mid-1949 est.) 837,000, classified as about 80% white, 16% mixed, 3% Negro, less than 1% Indian. Chief towns (pop., 1948 est.): San José (cap., 90,615); Heredia (12,038); Alajuela (11,663); Cartago (11,505). Language: Spanish. Religion: predominantly Roman Catholic. Presidents in 1949, Colonel José Figueres Ferrer (provisional) and Otilio Ulate Blanco.

History. The year brought a restoration of constitutional government after a previous year of revolt and dictatorship. The Constituent Assembly met on Jan. 16, restored political liberties, drew up a new constitution and retired, Nov. 8, in favour of a Legislative Assembly. On the same date Colonel José Figueres and his revolutionary junta resigned and president-elect Otilio Ulate Blanco was inaugurated.

The return to democratic government was interrupted on April 2 by a military revolt fomented by the minister of national defence, Colonel Edgardo Cardona, but the uprising was crushed within 24 hours. Six were killed and 24 were injured in the fighting. Those arrested in connection with the revolt were granted complete amnesty in June by Figueres.

Notwithstanding the attempted coup, the junta agreed in April to resign on May 8 and turn the government over to Ulate, but the president-elect refused to take office until the new constitution was promulgated and a Legislative Assembly

elected. In the congressional elections, Oct. 2, Ulate's party, the National Union, won a majority of the seats (33 out of 45) and also elected both of the vice-presidents. The remaining seats in the assembly were distributed among five other parties. On his inauguration, Nov. 8, Ulate pledged particular support to new social security legislation, public health, education and a higher standard of living for the people.

The critical relations between Costa Rica and Nicaragua arising from the so-called "invasion" of exiled former President Rafael Calderón Guardia's sympathizers in Dec. 1948, were smoothed in January through the offices of the Organization of American States (*q.v.*). The dispute was settled completely in February by a friendship pact signed by the two countries in Washington.

On the economic front, rising coffee prices in the world market were offset during 1949 by previous commitments to sell the current crop at lower prices. The general cost of living index figure rose from 241 in March (1936=100) to 250 in August. In July, however, a series of government decrees established new minimum wage rates affecting almost every employee in the country and calling for wage increases from 15% for peons in the central plateau to as much as 250% for some white-collar workers.

Education. Schools (1948): primary 919, pupils 99,550; secondary 44, pupils 10,955 The National university had 907 students with 180 professors in 1945

Agriculture. The 1949-50 coffee crop was forecast to reach a record 475,000 bags of 132 lb. each Other major crops (1948, in '000 lb.)· corn 46,847; rice 28,209, potatoes 27,646, beans 22,338. In 1949 there were 492,048 head of cattle in the country

Foreign Trade. Exports in 1948 were valued at U S $31,839,900; imports amounted to $42,344,379. The U S took 72% of the exports and supplied 78% of the imports The main imports were wheat flour, sulphate of soda and cotton textiles The chief exports were coffee, bananas, cacao and abacá fibre.

Communications. At the end of 1947 there were 414 mi of public and 255 mi. of private railways and 1,015 mi. of improved highways. At the end of 1946 there were 2,800 automobiles, 600 buses and 1,300 commercial vehicles registered

Finance. ('000 colones) Budget (1949 est.) ordinary expenditure 110,762, extraordinary expenditure 106,968, (1948, actual) expenditure 114,797; revenue 90,080. Public debt (end 1948)· external 169,136; internal 147,961. At the end of June 1949, the Central bank had gold reserves totalling 11,547 and currency circulation amounted to 103,410 The monetary unit is the *colón*, valued officially at 17·6 U S cents on July 31, 1949, but with street-market quotations as low as 11·11 cents on Oct. 22. (M. L. M.)

COTTON. Progress continued to be made in the cotton industry in Great Britain throughout 1949, although the recovery towards prewar performances was not swift. Yarn production in the closing months of the year was the highest after World War II and the number of workers employed in spinning and weaving exceeded 300,000, compared with 360,000 in 1937. Further recruitment gains took place, stimulated by better amenities in the mills, the use of part-time labour and foreign trainees from Europe. In the first half of the year both spinning and weaving operatives obtained wage increases; and the new list for mule spinners based on the recommendations of the Evershed report was adopted. The final report of the Cotton Manufacturing commission urged the importance of introducing its earlier proposals for a new alternative wage system. Agreement on this voluntary plan was reached at the end of the year.

The Raw Cotton commission continued its policy of revising selling rates to British spinners in accordance with changes in world values. The price of American cotton remained relatively stable, rising from 23·00*d.* per lb. at the beginning of the year to 23·50*d.* before devaluation. The currency changes resulted in a sharp advance to 28·15*d.* per lb., the price at the end of December being 29·65*d.* Long staple Egyptian Karnak cotton fell in price from 52·00*d.* per lb. in January to 40·00*d.* in mid-April. In November the selling quotation had recovered to 44·50*d.* per lb. Egyptian Ashmouni cotton, valued at 30·15*d.* per lb. at the beginning of the year, declined to 25·65*d.* in June but was raised after devaluation until the price in December was 38·85*d.* A new cover scheme was generally adopted from the beginning of December, enabling mill-owners to buy raw cotton on forward delivery terms with adequate cover facilities.

Statutory price control was lifted from yarn and cloth in April but the existing level of values was fully maintained by the trade itself. Further freedom was given to exporters by the abolition of the market grouping and symbol systems, enabling shippers to send yarn and cloth to destinations of their own choice. The national economic need to increase exports to hard currency markets was continually stressed. Exports of cotton piece goods for the first 11 months of the year totalled 838,379,000 sq. yd., a substantial advance on shipments for the whole of 1948. Main customers were British West Africa, Australia, South Africa, Pakistan and India. The import ban imposed by South Africa and India hampered trading in the second half of the year. Yarn exports for the first 11 months of the year amounted to 76,530,400 lb., much larger than the aggregate for 1948. Leading consumers were Pakistan, India, the Netherlands, Australia and Hong Kong. After devaluation a rush of business from soft currency markets, chiefly in Europe, caused the Board of Trade to issue a warning that further applications for export licences to such areas would be very closely watched.

Grouping of mills under the government's modernization programme made better progress, 28 spinning amalgamations being approved by the Board of Trade, representing 59% of the total spindles installed. Re-equipment proposals were submitted for 60 mills, the time for booking new machinery under the act being extended to April, 1950.

Clothes rationing ended in Great Britain in March but little difficulty was experienced in meeting the demand of the home trade. Extensive revisions in maximum utility cloth prices were enforced. Owners of textile bleaching and printing plant agreed to enter into arrangements to reduce surplus machinery. It was proposed that re-organization boards should be set up to accept redundant plant offered voluntarily, and that financial support should be given by those firms which remained in the trade.

Cotton textile producing countries in Europe generally made steady progress and several nations were able to export goods in larger quantities than before World War II. British spinners and manufacturers found little evidence of a return to a buyer's market. Supplies were again supplemented by imports of grey cloth, chiefly from Japan, for finishing and re-export. Demand generally continued to exceed supply but the industry remained, both financially and organically, much stronger than at any time after 1920. (F. W. TA.)

United States. *Manufacture.* The decline in the U.S. cotton industry continued throughout the first half of 1949, but there was an appreciable improvement after June. By the end of the year there was an active demand and a rising trend of production and prices.

However, the production for the year was expected to show a minimum drop of 13% compared with 1948. On a yardage basis, 1949 production was down at least 1,200 million yd. Production during the first nine months of the year was 6,197 million yd., compared with 7,377 million yd. in the corresponding period of 1948. Spindle activity in September was 115% of 80-hr. capacity as compared with 103% for the first six months of the year. Some prices had advanced as much as 25% above the low July level—the average increase was nearer 10 than 15%.

Production. The U.S. cotton crop of 1949 of 16,034,000 bales (of 500 lb. gross weight) was the sixth largest on record,

comparable with 14,877,000 bales in 1948, and an average for 1938-47 of only 11,306,000 bales. It was valued at approximately $2,300 million. The estimated lint yield per harvested acre in 1949 was 285·8 lb., compared with 312·6 lb. in 1948 but the third highest on record and comparable to the 254 lb. average during 1938-47. Acreage harvested in 1949 was 26,898,000, or 18% more than the 22,821,000 ac. harvested in 1948 and even larger in comparison with the 21,396,000 ac. average of the previous decade. This large acreage was in spite of a government request that an acreage goal of 21,894,000 ac. be observed. Texas, California, Arizona and New Mexico produced 50% of the 1949 crop. The 1949 crop of American-Egyptian cotton was 4,300 bales, whereas only 3,600 bales were produced in 1948; the average for 1938-47 was 29,500 bales.

Cotton prices for growers reached a peak of 30·13 cents per lb. in June, before the condition and probable size of the 1949 crop were adequately indicated, but declined to 27·76 cents per lb. in November. The probable average price for the 1949 crop was indicated at 28·60 cents per lb., compared with 30·41 cents average for the 1948 crop.

Exports of cotton from the United States during 1949-50 were expected to decrease moderately from the 4,747,600 bales in 1948-49, but to continue below the prewar rate.

The 1949 crop of 16,034,000 bales, plus a reserve of 5,283,000 bales, provided a total U.S. supply of 21,317,000 bales against a probable domestic consumption of 8 million bales and an export of a possible 4·5 million bales, thus leaving a probable reserve of over 8·5 million bales in Aug. 1950, much of it in the hands of the Commodity Credit corporation. This mounting surplus resulted in an order from the Department of Agriculture that plantings in 1950 be allocated to producing areas on the basis of a national goal of 21 million ac.—21% less than in 1949. In December growers approved by a 9 to 1 ratio that marketing quotas be established on the 1950 crop, thus loans would continue to be available to co-operating growers at 90% of parity.

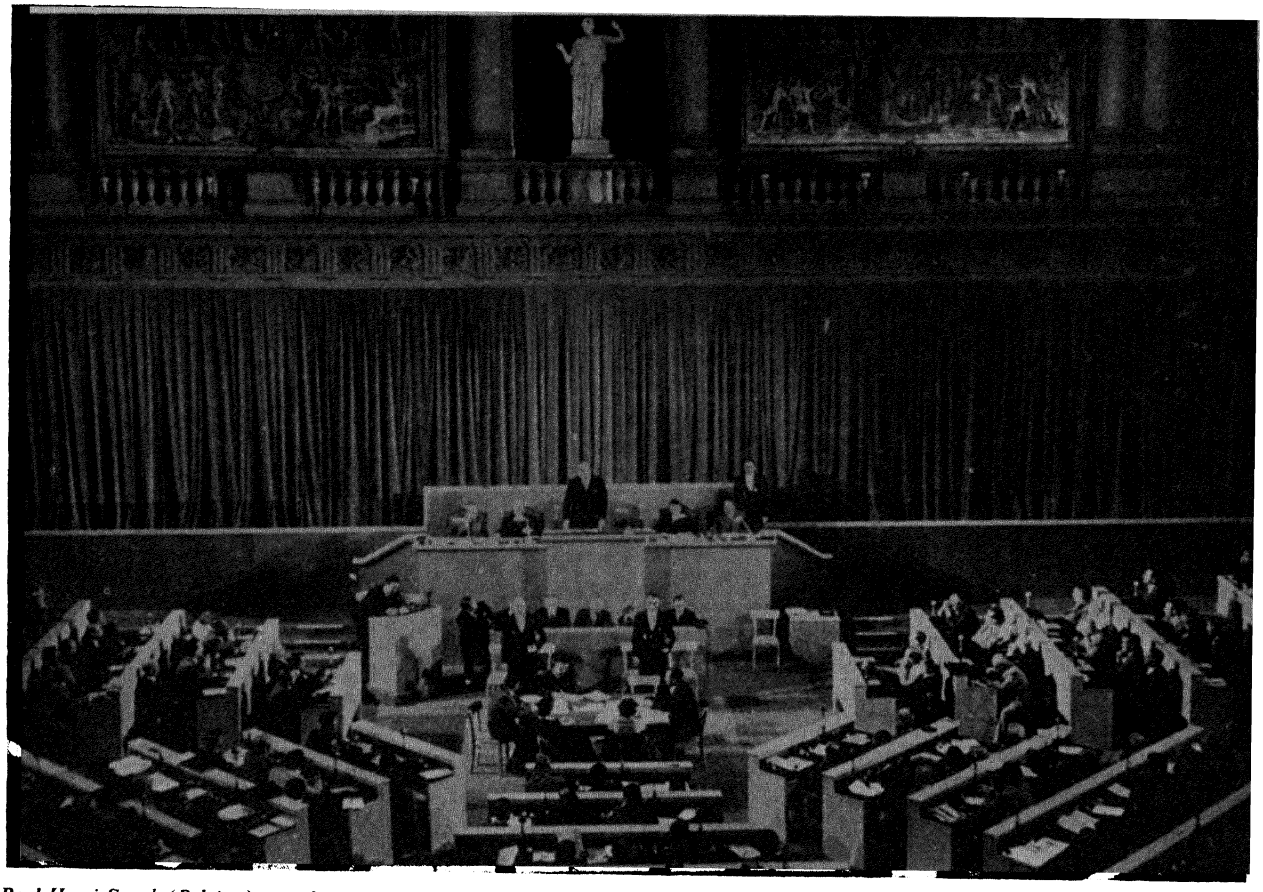
World Production. World cotton production continued its upward trend in 1949. The preliminary estimate for the crop for 1949-50 indicated 30 4 million bales, an increase of 4·5% compared with the 29·1 million bales in 1948. Acreage increased sharply to 68,640,000 from 63,840,000 in 1948, but was substantially below the 81,142,000 ac. of prewar. Mexico harvested 1,334,000 ac. as against 1,050,000 ac. in 1948, producing a record crop of 896,000 bales—more than double the 1940-44 average. Indian production increased to 2·4 million bales from 1,960,000 bales the previous year. Egypt reported a crop of 1,616,000 bales, a 12% smaller crop from an acreage 17% larger than in 1948, a result of a 25% reduction in yields following insect damage. Brazil's crop was expected to be smaller than the 1·5 million bales produced in 1948.

World reserves of cotton from previous crops increased to 14,768,000 bales from 13,907,000 bales in 1948, but were low compared with the 1935-39 average of 17,352,000 bales. The reserve was expected to increase to about 17,000,000 bales by the end of the crop year, Aug. 1950. Total world consumption was expected to decline about 600,000 bales, the decrease being largely in China; Great Britain, Japan, Germany and France were expected to show increases. (*See* also TEXTILE INDUSTRY.) (J. K. R.)

COUNCIL OF EUROPE. The year 1948 had seen considerable progress in the unification of Europe. The Brussels treaty marked the first big step. It was followed by the creation of a defence organization under the command of Field Marshal Viscount Montgomery of Alamein with its headquarters at Fontainebleau, France. Meanwhile the European movement, a private organization under the joint presidency of Léon Blum, Winston Churchill, Alcide De Gasperi and Paul-Henri Spaak, had held a remarkable congress at The Hague, Netherlands, which brought together nearly 1,000 delegates from all over Europe. Its most important resolution demanded the creation of a European assembly. Finally throughout 1948 the Organization for European Economic Co-operation had continued its work of drawing western Europe together economically. The ground had thus been prepared for a further advance, but when on Feb. 7, 1949, the Brussels powers—Belgium, France, Great Britain, Luxembourg and the Netherlands—announced their intention to promote the establishment of a Council of Europe consisting of a committee of ministers and a consultative assembly, the announcement came as a surprise. Few people had expected such an early fruition.

A number of reasons might be suggested for the rapid growth of opinion in favour of greater European unity. The failure of the United Nations to create a condition of general security had convinced large numbers of Europeans that they must provide for their own security by some regional organization. This feeling was sharpened by the fear of communist infiltration, possibly culminating in a Russian sweep over western Europe. The successful maintenance of the position of the western powers in Berlin by means of the air-lift and the recession of the communist parties in France and Italy had done something to allay these apprehensions, but had by no means removed them. At the same time, in spite of the gradual economic recovery which was taking place in western Europe, there was a growing realization of the need for pooling its agricultural and industrial resources, to avoid a serious relapse when Marshall aid came to an end in 1952. It was also becoming clear that the defence and the economic restoration of Europe required a solution of the German problem, which could only be solved by bringing Germany into the framework of a united Europe. Moreover, apart from these immediate considerations, there was a nascent belief that Europe could not maintain its traditional liberties against the assault of totalitarian ideas, unless it reaffirmed its faith and undertook its collective defence. The impulse generated by all these convictions and sentiments was reinforced by the encouragement of the American government and by the pressure of congress.

At the beginning of May the foreign ministers of ten countries—Belgium, Denmark, France, Ireland, Italy, Luxembourg, the Netherlands, Norway, Sweden and the United Kingdom—met at St. James's palace, London, under the chairmanship of Ernest Bevin, and there drew up the statute of the Council of Europe. It was to consist of a committee of ministers and a consultative assembly, the former to "provide for the development of co-operation between governments," the latter to "provide a means through which the aspirations of the European peoples may be formulated and expressed." Every member of the council was to "accept the principles of the rule of law and of the enjoyment by all persons within its jurisdiction of human rights and fundamental freedoms." The committee of ministers might invite other countries to join the council, either as full or associate members, the latter being entitled to representation in the assembly, but not in the committee of ministers. The control of the organization and the agenda of the assembly rested with the ministers, to whom its recommendations would be addressed and with whom any action to be taken on them or on behalf of the council generally would lie. Subject to these limitations, the assembly might discuss any matter within the scope of the council, that is to say, the promotion of greater unity of its members "for the purpose of safeguarding and realizing the ideals and principles which are their common heritage and facilitating



Paul-Henri Spaak (Belgium) presiding over the consultative assembly of the Council of Europe at Strasbourg, Aug. 1949. M. Spaak was unanimously elected first president of the assembly on Aug. 11.

their economic and social progress." The only subject specifically excluded from the consideration of the council was defence. Each country was allotted a number of representatives in the assembly proportionate to its population, ranging from 18 for France, Italy and the United Kingdom to 4 for Denmark, Ireland and Norway.

The first meeting of the council was fixed to take place at Strasbourg in August. In the meantime, delegates to the assembly had to be nominated by whatever method the government of each country might choose. In Great Britain it was decided to appoint a delegation drawn from all three parties in proportion to their strength. Herbert Morrison and Hugh Dalton for the Labour party, Winston Churchill, Harold Macmillan and Sir David Maxwell Fyfe for the Conservatives, and Lord Layton for the Liberals were the principal nominees. In other countries a similar practice was usually followed, so that, on meeting, the assembly was found to consist entirely of members of parliament representing a wide variety of political opinion. Their domestic differences were to some extent attenuated, however, by the seating arrangement adopted at Strasbourg. Instead of each national delegation being grouped as a unit, the delegates were seated in alphabetical order. Being thus mixed up together without any national labels, they were invited to look upon themselves as representatives of western Europe rather than of their respective countries, a suggestion which had a perceptible psychological influence on the assembly.

When its first session was inaugurated by Edouard Herriot in the hall of the University of Strasbourg on Aug. 10, 12 countries were represented by 102 delegates, including delegates from Greece and Turkey, whose application for membership had been accepted by the committee of ministers. Under the presidency of Paul-Henri Spaak the assembly sat continuously for a month. Its debates in full sitting and in the six committees—political, economic, social, cultural, legal and privileges—covered most of the problems affecting the unity of Europe. As they proceeded, a sense of common purpose developed and with it a corporate consciousness. At the close of its session the assembly had appointed a permanent committee to ensure its continuous existence between sessions and had decided to maintain its six committees in being with the same object in view. The assembly claimed, in fact, to be regarded as a regular parliamentary institution.

The working committees of the assembly produced a large body of recommendations for transmission to the committee of ministers. Not least important was its code of human rights with a European commission and a European court to enforce it. Once this basic charter of European liberties was adopted, it would become binding on every member state, which meant that the preservation of individual freedom and resistance to dictatorship would be not only a national affair but the concern of the whole European community—a powerful safeguard for democracy.

On the economic side the assembly recommended that European trade should be progressively freed from restrictions and that European currencies should be made interchangeable. It further declared that existing economic ties between Europe and its associated countries and territories overseas should be preserved and extended. For this purpose an economic conference between them should be convened, in order to work out common policies as regards trade preferences, foreign investment and the development of natural resources. As a final stage in its economic programme, the

assembly suggested negotiation between the Council of Europe and the United States, in order to reach agreement for the modification of existing treaties hampering intra-European trade and for stimulating a larger flow of exports from Europe to America.

Lastly a vigorous attempt was made to tackle the political difficulties in the way of uniting Europe. By April 30, 1950, the political committee was instructed to report on the "modification desirable in the political structure of the members of the council with a view to a closer unity between them." An indication of the lines on which it should go was given by the resolution declaring that the aim of the council was "the creation of a European political authority with limited functions but real powers" and by a series of amendments to the statute giving greater latitude to the assembly, including the right of approving or disapproving the admission of new members. A great deal of consideration had been given to the admission of Germany as an associate member, for it was recognized that the solution of the German problem was essential to the reconstruction of Europe. The assembly therefore requested that the question of new entrants should be urgently considered by the committee of ministers and should be placed on the agenda of an extraordinary session early in 1950.

The committee of ministers met in Paris on Nov. 3. It regarded any revision of the terms of the statute as premature but agreed that in practice the assembly should be free to determine its own agenda within the limits of the statute and should be consulted before the admission of new members. As the German Federal republic had notified its desire to be admitted to associate membership, the ministers referred this request to the permanent committee of the assembly. That body met on Nov. 7 and approved the German application on condition that the republic affirmed its determination to comply with the statute and expressed clearly its will to abide by it. The committee protested vigorously against the decision of the ministers to provide no funds for the meeting of the committees of the assembly between sessions, and demanded that the experts appointed by the ministers to frame a convention on human rights should take the assembly's draft as a basis. It decided that the committees should meet as intended by the assembly.

The Council of Europe had thus become an established institution, and had begun to exert its influence on the political and economic development of Europe. Though constitutional and other questions remained to be solved, its first meetings marked an important step in the direction of uniting Europe. (H. BTR.)

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COUNCIL OF FOREIGN MINISTERS. The sixth session of the Council of Foreign Ministers, the first to be held since the fifth session had adjourned *sine die* at London on Dec. 15, 1947, met at Paris from May 23 to June 20, 1949, to consider the basic problems of Allied policy toward Germany and Austria. The session left the three western powers and the Moscow government as far apart as before on the question of Germany but recorded some progress towards agreement on Austria.

The holding of the session was arranged as one part of a four-power agreement, reached on May 4, for the lifting of the Soviet blockade of the western sectors of Berlin and for the removal of Allied counter-measures against trade with eastern Germany. The blockade of western Berlin had been strongly countered by the United States and British airlift, with the support of most of the people of Berlin. Between Feb. 15 and May 4 the U.S. government, with the approval of the British and French governments, had negotiated with the Soviet government, through ambassadors Philip Jessup and Yakov A. Malik, in the search for a way out of this dangerous impasse.

First official information concerning the negotiations came from the Soviet Tass agency on April 26, followed by a fuller State Department release of the same day. The Soviet decision to abandon the blockade in return for a revival of negotiations on Germany marked a definite relaxation of international tension, for the Soviet government thereby acknowledged the right, denied in the negotiations of 1948, of the Allies to occupy Berlin and gave up its claim that all Berlin constituted part of the Soviet zone of occupation. Later difficulties over transportation and currency matters in Berlin, culminating in a new breakdown of four-power negotiations in late September, failed to detract from the basic success of the western powers in asserting their right to remain in control of their sectors of Berlin (*see* BERLIN).

The German Problem. From May 23 to 31 the four foreign ministers—Dean G. Acheson, Ernest Bevin, Robert Schuman and Andrey Y. Vyshinsky, debated the problem of German unity and Allied control. Vyshinsky urged the re-instatement of the four-power Allied Control council, together with the formation of a German state council, based upon the economic organs already functioning in eastern and western Germany respectively. He again argued for separate four-power control of the Ruhr, with direct Soviet participation, and for large-scale German deliveries of reparations to the Soviet Union. He refused all requests for information concerning the economic condition of the Soviet zone, including the status of Soviet-owned industries, which were estimated to constitute about one-third of the industrial assets of that zone.

Vyshinsky's proposals were met by a western proposal of May 28 for extending to all of Germany the fundamental law, drafted for the Western German state, by holding free elections in the Soviet zone and by guaranteeing personal and political freedom there. The four Allies could then enact a new occupation statute, regulating their relations with the unified German state and reserving only limited powers to themselves, with most decisions of the Allied commission being taken henceforth by majority rather than unanimous vote. Germany would make no reparations deliveries from current production or stocks and Germany would recover ownership of all industrial enterprises taken over by a foreign power since the surrender of May 8, 1945. These proposals were rejected by the Soviet government, and the three western representatives also declined the Soviet proposal that the council receive a delegation of the Soviet-dominated People's congress.

From June 1 to 10 the foreign ministers discussed the problem of restoring a unified administration and currency in Berlin. Again the western members proposed that broad powers be granted to the municipal administration, based on free elections, with its decisions subject to disapproval by the four-power Kommandatura, normally by unanimous vote. Three secret meetings failed to reconcile the widely divergent viewpoints, as the Soviet counter-proposals would have subjected the Berlin administration closely to the Allied Kommandatura, which, in turn, would be able to act only through unanimous decisions. After extensive discussion of the economic problems of Berlin and its relations to the Soviet zone and of relations between the Soviet and western zones, the foreign ministers were unable to reach any definite agreements and merely instructed their authorities in Berlin to consult concerning the expansion of trade and other questions of common interest in Berlin. The council re-affirmed the May 4 agreement which removed the Soviet blockade of Berlin.

The discussion of how and when to draft a peace treaty

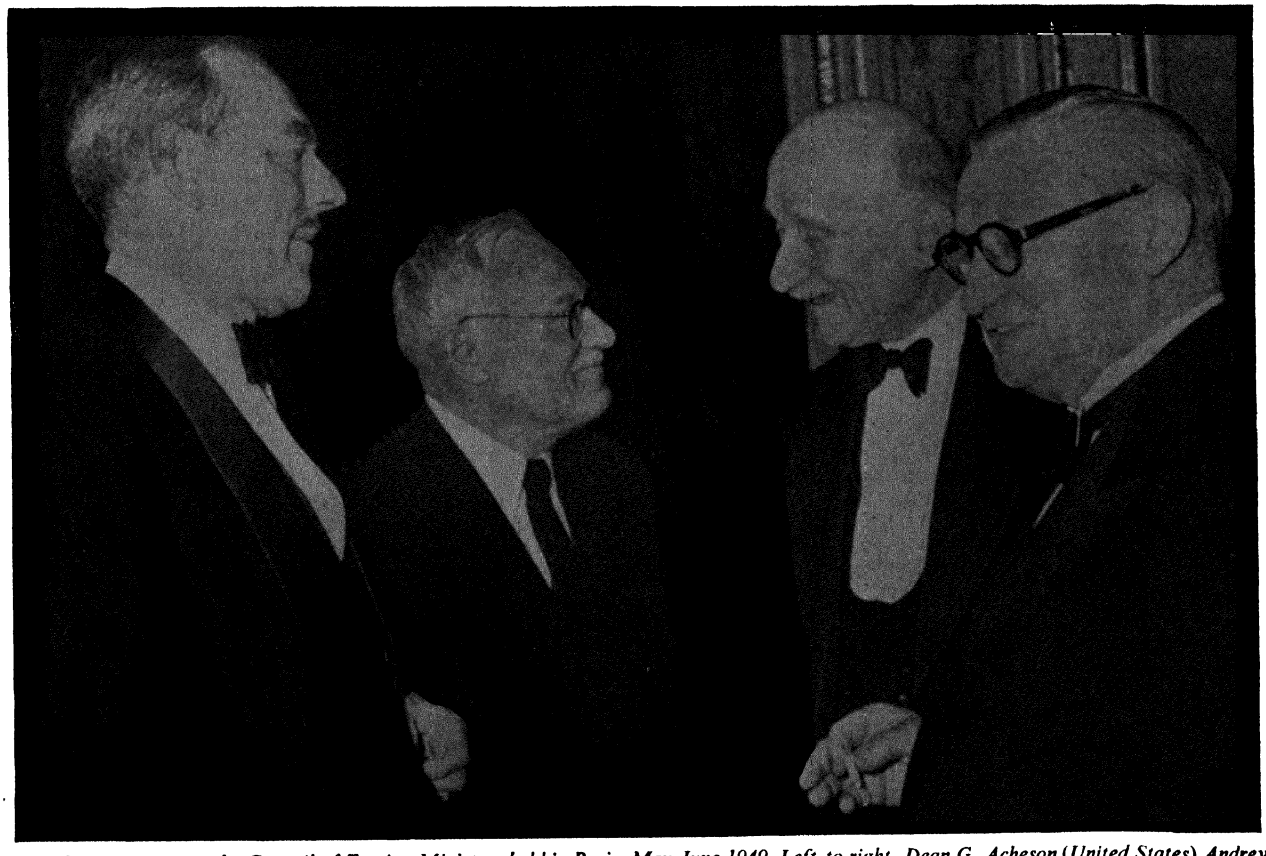
for Germany was also fruitless. The Soviet proposals that the four governments prepare a draft treaty within three months and that all occupation forces be withdrawn from Germany one year after conclusion of the treaty seemed designed to win support in Germany. The western negotiators objected that there was little point in promising to prepare a treaty unless the four governments agreed first to re-establish the political and economic unity of Germany, to determine its boundaries, and to decide the questions of reparations and the future status of Soviet-owned properties. The final communique, June 20, recorded the failure of the foreign ministers to find any common meeting ground for the restoration of joint control over Germany as a whole or for the economic and political unity of Germany. Despite the statement that the ministers would, during the next session of the general assembly of the United Nations, " exchange views regarding the date and other arrangements for the next session " of the council to deal with the German question, no such arrangements were made during the informal meetings of the four ministers at New York in late September and early October. (*See* also GERMANY.)

The Austrian Problem. The Paris session succeeded, however, in removing several obstacles which had blocked for many months the completion of a four-power treaty re-establishing Austria as a free and independent state, as promised in the Moscow declaration of Nov. 1, 1943. Negotiations, begun in London in Jan. 1947, transferred to Moscow, then to Vienna and back to London and broken off in May 1948, had been resumed by the foreign ministers' deputies in London on Feb. 9, 1949, but were still deadlocked in May by continuing disputes over Yugoslav claims to Austrian territory and to reparations, as well as over Soviet claims to German assets in eastern Austria.

In the last days of the Paris session the Soviet government abandoned the Yugoslav claims; it had previously upheld them, despite the increasingly bitter controversy between the Soviet and Yugoslav Communist parties, beginning in June 1948. In the final communique of June 20 the four ministers announced their agreement to re-establish Austria within its pre-*Anschluss* boundaries, with cultural and administrative protection for the Slovene and Croat minorities. Vyshinsky also abandoned the Yugoslav claim for $150 million in reparations from Austria, while agreeing that Yugoslavia should retain or liquidate Austrian properties within its own territory.

In return for these concessions the western powers made several concessions to Soviet economic interests. Of the German " assets " which had been assigned to Soviet ownership by the Potsdam protocol, certain important items, especially in the fields of oil and Danubian shipping, were now to be assigned to the Soviet Union and, in return for its renunciation of all other claims to German assets, Austria was obligated to pay $150 million over a six-year period. Details of the settlement were referred to the deputies, who were instructed to complete the draft treaty by Sept. 1.

After the agreed protocol had already been issued to the press, Vyshinsky attempted to recall it, in order to insert into the agreed statement a provision assuring the free export of profits of the Soviet enterprises in Austria; this matter was finally left to later settlement. The Yugoslav government denounced the Paris settlement declaring that it would never abandon its claims against Austria and attacking the four governments for again sanctioning the injustice of " the imperialist peace of Versailles." New rancour was added to the Soviet-Yugoslav dispute when the Soviet government asserted, and Belgrade denied, that the Tito government had



The four ministers at the Council of Foreign Ministers held in Paris, May-June 1949. Left to right, Dean G. Acheson (United States) Andrey Y. Vyshinsky (Soviet Union), Robert Schuman (France), and Ernest Bevin (Great Britain).

negotiated with the British government as early as March 1948 about the renunciation of its claims to Carinthia, without informing the Soviet government.

The final negotiations for the Austrian treaty were not completed by Sept. 1, and the deputies were directed to resume their work on Sept. 22 at New York, where the general assembly of the United Nations was in session. The foreign ministers also met informally, on Sept. 26 and 29 and again on Oct. 6, to settle some of the disputed points. On Dec. 14, after 246 meetings, the deputies suspended their negotiations, to resume them in London on Jan. 9, 1950.

During their New York sessions the deputies completed many of the unresolved provisions of the treaty. They elaborated detailed arrangements for the protection of the cultural and educational rights of the Slovene and Croat minorities in Austria and the use of their languages regionally for administrative purposes. They rejected, however, the Yugoslav demand for full political autonomy for the Slav minority in Austria.

Original Soviet demands for full ownership of German "assets" in eastern Austria would have left the Austrian economy bound hand and foot. Over many months of relentless bargaining the extent of Soviet claims had been considerably reduced, and the Soviet negotiators had also abandoned the demand of extra-territorial status for their enterprises. In the spring of 1949 the deputies agreed to assign to the Soviet Union oil-refining equipment with a capacity of 420,000 tons of crude oil and to transfer to its possession certain physical assets of the Danubian Steamship company located in eastern Austria, as well as in Hungary, Rumania and Bulgaria; by giving up its long-maintained claim to share in the control of the Austrian steamship company the new Soviet position left Austria free to develop its own navigation facilities independently.

At their Paris session the foreign ministers agreed that Austria should be denied the right to nationalize the Soviet enterprises except with Soviet consent. The Paris bargain also assigned to Soviet control 60% of Austria's oil-producing areas, at the 1947 level, under 30-year concessions. In addition the deputies were directed to elaborate a list of oil-exploration regions, exactly specified, in which the Soviet government would be free, during eight years, to conduct explorations and to receive further 30-year concessions for those areas which proved oil. Untapped areas would revert to Austrian control in eight years.

When the negotiations were suspended in December, the main disagreements concerned the method of settling disputes over the interpretation of the treaty; the support of displaced persons located in Austria; and the employment by Austria of foreign technicians. None of these questions had sufficient intrinsic importance to prevent conclusion of the treaty if the four powers could now agree, politically, to recognize Austria's independence and to withdraw their forces of occupation. It was, however, widely believed that Soviet reluctance to complete the final drafting of the treaty was due to the hostile pressure which it was exerting upon Yugoslavia; as long as Soviet troops occupied eastern Austria the Soviet government had the right to maintain "lines of communications" troops in Hungary and Rumania, from whose territory the chief centres of Yugoslavia could be threatened. (*See* also AUSTRIA.) (P. E. M.)

COUNTRIES OF THE WORLD, AREAS AND POPULATIONS OF THE: *see* AREAS AND POPULATIONS OF THE COUNTRIES OF THE WORLD.

COUNTRY LIFE. Looking back on 1949 the countryman who has no commitments and limited needs should be hard put to name a year more to his liking. The winter carried over from the last month of 1948 was mild beyond hope or imagining; set to music in the earliest days of January by thrushes, robins and wrens. The return of the song thrushes was the more welcome for they had paid heavy toll to the harsh winter of 1947. Blackbirds seemed a little late and uncertain but above the garden a skylark sang a New Year greeting again and again and, although the woodland mosses and lichens were not as brilliant as in hard seasons, hazels were hanging out their catkins and gorse flamed. February gave a long lease to her "fair maids," winter aconite and elm blossomed early, gold crests were singing, bees were spring-cleaning hives and workers foraging. Brown owls were very vocal and blackthorn was breaking into bloom. Everything was a little before its time, or so it seemed. A sign of the mildness of winter was provided by the holly berries which remained untouched; in March the nests of blackbird and thrush had more than their usual cover, and lambs and plover alike contributed to the music of the hours. April called the swallows early and the house martins followed closely; both stayed rather later than usual. The one matter for concern was the absence from winter of snow and heavy rains. Where was the moisture on which so much depends? The farmer looks to the snow, though it holds up work and adds to labour.

On one of the few cross country journeys that can be taken nowadays it was possible to note the rapid advance of the machine, invading fields for the first time in their long life as cultivable land. Many resent their coming because they are sending so many horses to slaughter; others are seriously perturbed by their effect upon employment. Mechanized farms that employed three men to the hundred acre can now carry on with one and, be it remembered, most of our rural industries are things of the past; you must travel far to find a blacksmith; thatchers, hurdle-makers and handy men are disappearing.

With the demand for more machinery has come the removal of hedges together with great trees that decorated so many of them, but our insectivorous birds still look for bushes. Even if they had been preserved the plight of insect eaters, native and migrant alike, would have been perilous, for magpies, jays and sparrow-hawks are greatly on the increase. In a certain garden every nest was robbed; they included those of wren, flycatcher, long-tailed tit and, of course, the wood pigeon whose eggs were taken regularly by the red squirrels. It was a relief to see young thrushes and blackbirds ranging the garden as summer ripened, their attacks on all bush fruit that netting could not reach were ignored. Water bowls were replenished regularly but the birds preferred the fruit—clear sign of avian intelligence.

Some March fogs appeared and old countrymen prophesied May frosts; sufficient came to sweep the blossom from low lying fruit trees. One frost actually slipped into June. Then came drought; land baked and market gardens wilted, but if cold, wet weather had been sent in place of hard sunshine complaints must have been more widespread. Certainly the hay crop was exceptional and when a break came in the dry spell damage was negligible. Wheat stood up, barley and oats followed its example, roots improved and the countryside moved to an early and smiling harvest while the minister of agriculture sought quite needlessly to emulate Cassandra. Surely few can have seen more corn fields cleared in August. Straw left by the harvester combines and not worth keeping was being burned on the stubble, and before September was well on her road many tractors were out.

Against the prosperous career of corn and hay must be set a seasonal glut of vegetables that involved many market gardeners in heavy loss without reducing shop prices. Winter cabbages had been ploughed in during January, savoys in March, leeks in March and April, parsnips in April, green

onions and spring cauliflowers in June. Between April, when the first tomatoes from heated houses were on sale, and early September, when the outdoor fruit was in full supply, the price dropped from four shillings a pound to five pounds for a shilling. Victoria plums, complete with maggots, were on offer in September at twopence while early cooking apples of indifferent quality glutted a reluctant market.

Insect pests, wasps in the van, damaged many orchards. It was possible to pass hundreds of trees, whose spring loveliness had been a delight, shedding useless fruit, brown rot of apples being one of the worst troubles.

Root crops seen half-way through September were in bad plight, rain came too late, but the bountiful hay harvest and abundant oats helped stock-keepers instead. The housewife might find potatoes in short supply, and the drought destroyed many vegetables that the ploughs spared. In short, the pendulum swung between glut and scarcity but the country lover, looking back over the spring, summer and autumn of 1949, had to search his memory to find their parallel. (S. L. BN.)

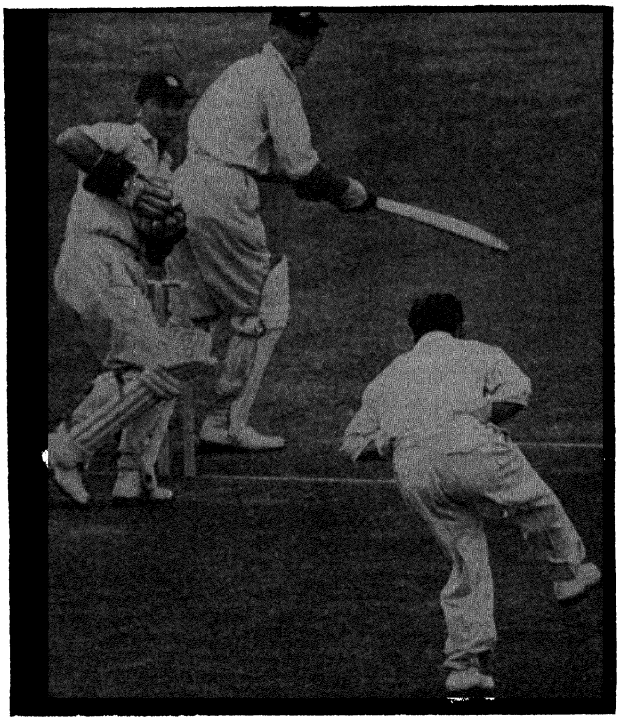
CRICKET. The winter of 1948-49 saw two overseas cricket tours. An M.C.C. side visited South Africa and a West Indies team went to the Indian peninsular. A third of the former team, captained by F. G. Mann, was composed of leading prewar cricketers. Unbeaten throughout their programme and winning the only two finished games out of the five four-day tests that were played, the English team owed much to the enthusiasm and personality of their captain who animated their fielding into a powerful reinforcement of bowling which of itself fell some way short of prewar test standard, though R. Jenkins did well with his flighted leg-breaks and A. V. Bedser and C. Gladwin were reliable. The leading batsmen, L. Hutton, C. Washbrook and D. Compton all had very fine figures, Compton in particular achieving records in his eight centuries, his aggregate of 1,781 and an astonishing innings of 300 against N.E. Transvaal made in 181 min., but the rest of the batting rather lacked backbone. South Africa, led by A. D. Nourse, just lacked the quality to present a serious challenge. The captain himself and B. Mitchell had fine batting records, but especially in Mitchell's case the tempo was often so slow as virtually to preclude a win in four days. A. Melville only played in one test and of the other batsmen only W. W. Wade and E. Rowan were of full test match class. Of their bowlers N. Mann and A. Rowan were very steady and the young fast bowler C. McCarthy did very well in his first full season; but there the attack virtually ceased.

The first test match, at Durban, was played on a rain-affected wicket and in the last innings England had to make 128 runs in 135 min.; they got home, amid intense excitement, with a margin of two wickets by a leg-bye off the last ball of the match, after owing almost everything to Hutton's 83 in the first innings and Compton's aggregate of 100 for the match. McCarthy's 6 for 43 in the first innings was outstanding. In the second test on the new ground at Johannesburg Hutton and Washbrook with an opening partnership of 359 beat the previous test match record, Compton made a century and the total reached 608. South Africa replied with 315 and 276 for 2 (E. A. R. Rowan 157 not out). The third game, at Capetown, was funereal and in its last stage South Africa made no attempt to meet Mann's gesture of leaving them 125 min. in which to make 229 runs. In the fourth, again at Johannesburg, Washbrook (97) and A. Watkins (111) were almost entirely responsible for England's total of 379, and Nourse with 126 not out carried South Africa who were still 122 behind. A century by Hutton enabled Mann to declare, but South Africa, without pursuing victory, easily batted out the 3¼ hr. left to them. The final game at Port Elizabeth provided something of an enigma: South Africa, to save the rubber, had to force a win, but batted all the first day for 219 and the loss of three wickets and their total of 379 (Wade 125, Mitchell 99) occupied nine hours. England, thanks to a dashing 136 by their captain, headed them by 16, and then on the last day Nourse declared leaving them 95 min. in which to get 172 runs and himself little prospect of victory; this task England achieved with a margin of three wickets just before rain set in for the night.

The West Indies team that visited India in the same winter could look back on their tour with great satisfaction, tempered, it may be, by the recollection of much travelling in great heat and pitches so easy as to make the life of a bowler a nightmare. Of their 19 matches they only lost one against six wins including the only test match that was finished. In one of the drawn games Pakistan put up an impressive performance. For their general success the great strength of the West Indies' batting was clearly responsible; indeed some judges rated it virtually on a level with that of the famous Australian team of 1948. In spite of an accident to their brilliant and experienced player G. Headley early in the tour, they completely mastered the Indian bowling and even V. Mankad, probably as good a left-hand bowler as any contemporary, found his 17 test wickets costing him 43 apiece. Head and shoulders over all their batsmen stood E. Weekes with a test match average of 111 for an aggregate of 779; after scoring a century in his last test match innings against the 1948 M.C.C. touring side, he proceeded to make further centuries in each of his first four test innings in India, thus establishing a world record. C. L. Walcott, a magnificent driver, J. B. Stollmeyer and A. Rae also had splendid figures; indeed nearly all the side could make runs. India too had strong batting in spite of the absence of V. M. Merchant, their most experienced and accomplished player; though V. S. Hazare headed the averages, R. S. Modi was really the most consistent batsman, and D. G. Phadkar proved himself the leading all-rounder on the side. Against scores of 631 and 639 in the first two test games India in each case followed on but had no difficulty in saving the match. In the third, which broke all attendance records at Calcutta, India, set 431 to win in the last innings, reached 325 for 3 but at no time showed any disposition to risk wickets for runs. In the fourth match their batting broke down badly and they lost by an innings and 193 runs, but the last game produced exciting cricket and was only drawn after the last over had seen India with two wickets in hand, needing only six runs to win. The West Indian bowlers on the phenomenally easy wickets that prevailed were not impressive, though P. Jones and J. Trim had pace and G. Gomez consistency.

In the domestic season in Australia, New South Wales won the Sheffield Shield competition and Sir Donald Bradman typically celebrated his knighthood by scoring yet another century in his testimonial match. A. R. Morris and A. L. Hassett were outstanding as batsmen and a new and formidable fast bowler seemed to have been discovered in A. Walker. A team of English women cricketers, captained by Miss Molly Hide, had a very successful tour of Australia and New Zealand, losing only one of their 28 fixtures but that one the only finished test match in Australia. Miss Hide made over 1,000 runs and five centuries.

The English season of 1949 recalled in its continual sunshine and hard wickets the years 1911 and 1921. Long before it was over the county players, especially the bowlers, were feeling the strain and it served to underline the predominant problem of English cricket—how to satisfy the economic needs of the counties with a full championship programme and at the same time conserve the energies, talent and zest



W. A. Hadlee, captain of the New Zealand touring team in Britain in 1949, being caught by W. J. Edrich in the final test match at the Oval; keeping wicket is T. G. Evans.

of her leading candidates for international matches. Chief interest centred in the visit of a New Zealand team, the first to come to England for 12 years. Admirably captained by W. A. Hadlee and fortunate indeed in their manager J. H. Phillips, the tourists made friends wherever they went and no doubt surpassed their own expectations in going through the summer with but a single defeat—at the hands of Oxford university—and in holding England to a draw in all four test matches. For these only three days had been allotted and at the end of the season it had become clear that with the present psychological approach to test cricket and in the absence on either side of bowling of the highest class, no results could be looked for within these limits. The New Zealand attack was virtually sustained by three men, J. Cowie, a fast-medium bowler of great persistency and stamina, G. F. Creswell, an accurate slow-medium bowler with the fashionable " in-swing," and above all T. B. Burtt, who in match after match kept an immaculate length with his left hand slows and was never really collared, hardly ever seriously counter-attacked. Supported by splendidly enthusiastic fielding ably disposed by Hadlee, the New Zealand out-cricket made the utmost of its resources, but it was the strength of the batting that really carried the side. In M. P. Donnelly and B. Sutcliffe they had two of the best left-handers of cricket history; V. Scott was an angular but effective opening batsman and W. M. Wallace and the captain himself players of real experience and tenacity; and J. R. Reid, F. B. Smith and G. A. Rabone all made runs at need. Against them the English team, captained in the first two games by F. G. Mann and in the latter two by F. R. Brown, could never marshal the bowling penetration or the batting aggression to force a win out of what were potentially superior resources, even when the selectors challenged all precedent and logic by picking eight bowlers for the final test match. In the first test match at Leeds neither the centuries of Hutton and Compton in the first innings and of Washbrook in the second nor the encouragingly hostile bowling of T. E. Bailey could seriously endanger New Zealand for whom F. B. Smith did best with 96 and 54 not out. In the second test at Lord's Compton made another hundred, but a superb 206 by Donnelly gave his side a lead of 171; even so England were never in danger and J. Robertson in his first and last appearance in the series made 121. Two young amateurs stole most of the limelight in the third test at Old Trafford, Manchester, R. T. Simpson hitting brilliantly in the last stages of his 103, after England had opened funereally, and Bailey achieving a fine " double " with 6 for 84 and 72 not out. For New Zealand Donnelly was again in form with 75 and 80, Sutcliffe, for the first time in the series, really asserted himself to the tune of 101, and Burtt worked indefatigably to take 6 wickets in 45 overs.

When at the end of the second day's play in the fourth test match at the Oval, England had scored 432 for 4 in response to a total of 345, there seemed a prospect that Hutton's 206, an exhibition of classic off-side play, Simpson's 68 and a competent century by W. Edrich had paved the way for a win, but next day the remaining wickets fell cheaply and the New Zealanders quietly batted out the match with determined and collective consistency typical of a team in which every player had throughout the tour set the cause above personal honour. When late in September they sailed for home, they took with them the friendship and good will of all English cricketers.

The county championship of 1949 provided the most open and prolonged struggle within living memory. At the beginning of August five counties had some chance of finishing on top. In a desperate match with Derbyshire at Lord's a wonderful innings by Compton, when all seemed lost, carried Middlesex into security, but Yorkshire, playing with something of the ruthless *élan* of the county's great days, came with a rush at the finish to tie for first place. Hutton with an aggregate of 3,429, only surpassed three times in cricket history, was supported by an impressive reinforcement of young players of whom Brian Close's record of 1,000 runs and 100 wickets in the first full season rivalled that of J. N. Crawford in 1906. Surrey, long fancied, fell away in the last matches, but among the lesser counties Worcestershire and Warwickshire had fine records, and Northamptonshire under their new captain F. R. Brown, enjoyed a great revival.

1949 County Championship Final Placings

	P.	W.	L.	D.	First Innings lead in match No. Dec.	L.	D.	Pts.
Points Awarded	—	12	—	—	—	4	4	—
Middlesex	26	14	3	9	0	1	5	192
Yorkshire	26	14	2	10	0	0	6	192
Worcestershire	26	12	7	7	0	2	5	172
Warwickshire	26	12	5	8	1	0	6	168
Surrey	26	11	8	6	1	2	4	156
Northamptonshire	26	10	7	9	0	2	3	140
Gloucester	26	10	7	7	2	0	3	132
Glamorgan	26	7	6	12	1	2	7	120
Essex	26	7	9	10	0	0	6	108
Somerset	26	8	15	3	0	2	1	108
Lancashire	26	6	7	13	0	0	7	100
Nottinghamshire	26	6	5	13	2	0	7	100
Kent	26	7	15	4	0	1	2	96
Sussex	26	7	10	7	2	1	2	96
Derbyshire	26	6	13	6	1	2	2	88
Hampshire	26	6	13	6	1	2	1	84
Leicestershire	26	3	14	8	1	3	2	56

There was a fine Gentlemen *v.* Players match in which runs were always hard to come by; at one time the Players, set 139 to win, had lost 6 wickets for 60, but spirited batting by T. Evans and Jenkins won the day. The university match provided the surprise of the season. Oxford had had a notable record at home, defeating both the New Zealanders and Yorkshire, but Cambridge, well led by D. J. Insole and

with two fine batsmen in G. H. G. Doggart and J. G. Dewes, consolidated notably on their tour and at Lord's fairly outplayed Oxford to win by seven wickets. Statistically, the outstanding feature of the university season was the partnership of 429 by Doggart and Dewes against Essex, a record for the second wicket in English cricket. Eton, a strong side, were too good for Harrow, and there were some signs of a general revival in school cricket. For the first time representative sides picked from the grammar and secondary schools of England and Wales met in an international match. Lancashire second XI won the minor counties' championship. Other features of the cricket year were the nomination of the Duke of Edinburgh to the presidency of the M.C.C., and the appointment by the M.C.C. of a special committee to enquire into the problem of bringing more and better cricket into the lives of the boys of England from secondary school age until the time of their call-up for national service.

(H. S. A.)

CRIME. In 1948 the number of persons in Great Britain found guilty of offences other than against defence regulations was 656,950, of whom 129,384 had committed indictable offences and 527,566 non-indictable offences, a rise of 11·9% compared with 1947 for indictable and of 5·8% for non-indictable offences. In addition, 20,163 persons were found guilty of offences against defence regulations, against 18,863 in 1947. Of these, 89% had committed black market, especially rationing, offences, compared with 83% in 1947. About half the total of persons found guilty had committed traffic offences; viz., 49·6% against 52·8% in 1947. The number of those guilty of larcenies remained fairly constant at slightly over 12% and that of sex offenders at 0·6%. Excluding certain categories of indictable offences which are considered separately, the highest increase; *i.e.*, 27%, was found among offenders guilty of violence against the person. The highest increases in non-indictable offences referred to drunkenness (31,260 as against 23,762) and prostitution (5,647 against 5,041). The figures quoted, however, referred to court appearances only and did not necessarily mean as many different individuals.

Indictable offences known to the police increased from 498,576 in 1947 to 522,684, as against 283,220 in 1938. Of them. 216,942 were cleared up during the year. Of 147 cases of murder of persons aged one year and over, 130 were cleared up during the year and 109 persons were charged. In 34 cases the murderer or suspect committed suicide; in 43 cases he was found insane. With regard to age, the increase over 1947 was highest for offenders under 17, *i.e.*, 24%, and only 6% for those over 17 (indictable offences). With regard to sex, the increase was smaller for females than for males.

Probably the most sensational murder trials of the year were those of John George Haigh, sentenced to death for the murder of a widow aged 69, whose body he was stated to have dissolved in an acid bath after the murder, and of Daniel Raven, sentenced to death for the murder of his parents-in-law.

Methods of dealing with offenders changed but little compared with 1947. There were ten executions for murder. Imprisonment was used for adults in 22% of all indictable cases by magistrates' courts and in 71% by assizes and quarter sessions. For those between 17 and 21, imprisonment was slightly less frequently used than before. The daily average prison population showed a considerable increase, from over 17,000 in 1947 to 20,000 in 1948, whereas receptions over the whole year went up from 44,390 to 48,827. This was due in part to the fact that, although no greater proportionate use was made of prison than previously, the absolute figures of offenders were higher; in part, however, it was due to a general lengthening of prison sentences. Fines maintained their record figures (52% for adults, 36% for the 17 to 21 group, 16% for adolescents and 12% for children). Perhaps the most interesting feature was that the downward trend in the application of probation, noticeable in postwar years, was halted. After declining from 32% in 1938 to 20% in 1937 (males of all age groups), it rose to 22% in 1948 and the absolute figures of persons placed on probation rose from 19,937 in 1947 to 24,386.

In Scotland the total of persons convicted or found guilty in 1948 was 89,459, which was 1,335 more than in 1947. 81,182 of them were male, which constituted an increase of 2,032, and 8,277 female, which showed a decrease of 697. Persons under 17 numbered 19,812; *i.e.*, an increase of 15·6% over 1947. The total number of crimes and offences known to the police was 172,129, or 2·6% more than in the previous year. The average prison population showed only a slight increase from 1,889 to 1,902 and receptions went up from 14,126 to 14,460. Three persons were sentenced to death but there were no executions. The use of probation increased from 4,270 to 5,572.

Europe. Reliable and comprehensive statistical information was unobtainable for most eastern European countries and for Germany where criminal statistics were still not re-organized after World War II. However, figures available for a few western and northern European countries indicated certain trends.

Belgium. The prison population declined from 21,891 in 1947 to 15,746 in 1948.

The Netherlands. Crimes known to the police numbered 49,061 in the second half of 1948 and 41,853 in the first half of 1949. Of this total, slightly more than 70% were crimes against property, whereas sexual offences numbered about 7% and offences against the person about 13%. The number of prison inmates present in the course of the year increased from 37,330 ordinary and 10,390 political prisoners in 1946 to 43,754 ordinary and 18,479 political prisoners in 1948, the increase in the latter category being due to technical factors related to the administration of criminal justice rather than to an actual rise in political crime.

Scandinavian Countries. In *Sweden*, the total of crimes per 100,000 of the population was 341·4 in 1947 against 349·6 in 1946 and 225·5 in 1940. In *Norway*, the absolute figures were 5,731, or 186 per 100,000, for 1946 (published in 1948), against 4,698, or 154 per 100,000 in 1945; about three-quarters of them were crimes against property.

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(H. MM.)

United States. The number of crimes committed in urban areas rose in 1949, thus reversing the downward tendencies noted in 1948; the rise in rural robberies cancelled out the decline recorded in the preceding year and rural burglaries and larcenies played their part in the rising crime wave. Car thefts in both city and country continued to decline as did the number of homicides.

TABLE I.—CRIME IN 1948 AND 1949 IN U.S. CITIES AND RURAL AREAS JANUARY TO JUNE, 1948 AND 1949
Per Cent. Change in 1949

	Cities	Rural Areas
Murder and non-negligent manslaughter	— 6·6	— 7·1
Negligent manslaughter	—15 5	— 4·9
Rape	+ 1 3	0·0
Robbery	+ 0·5	+ 8·0
Aggravated assault	+ 4·1	+ 3·8
Burglary	+ 4·4	+13·1
Larceny	+ 3·3	+ 8·8
Car theft	— 3·7	— 5·8
Total	+ 2 7	+ 7·6

Table I includes crimes committed in 2,081 cities and towns having a total population of 58 million, and rural areas comprising 39 million inhabitants. Based upon these figures, the total number of offences of the types listed in Table I committed in the United States during 1948 was estimated at 1,686,670. Reduced to daily averages, 36 persons were slain feloniously, 255 were victims of rape or assault with a lethal weapon and 150 persons were robbed by means of personal force or threats. In an average day, there were also 1,032 burglaries, 463 car thefts and 2,672 miscellaneous larcenies. (BR. S.)

TABLE II.—URBAN AND RURAL CRIMES PER 100,000 POPULATION, U.S., 1948

	Urban	Rural
Murder and non-negligent manslaughter	5·99	6·15
Negligent manslaughter	3·96	4·26
Rape	12·3	12·23
Robbery	56·2	18·4
Aggravated assault	75·8	36·5
Burglary (breaking and entering)	392·2	149 8
Larceny (theft)	975·2	220·3
Car theft	165·5	54 0

CRIPPS, SIR (RICHARD) STAFFORD, British statesman and lawyer (b. London, April 24, 1889), was appointed chancellor of the exchequer on Nov. 13, 1947, after the resignation of Hugh Dalton. (See *Britannica Book of the Year 1949*).

The heavy strain of his work as chancellor, with responsibility for both financial and economic affairs, caused him in July 1949 to visit Switzerland where he stayed a few weeks undergoing treatment for a digestive complaint. On April 6 he presented his budget to the House of Commons and, because of the continued rapid drain on Britain's dollar reserves, he presided over a meeting of the Commonwealth finance ministers in London in July. This was preceded by talks with John Snyder, United States, and Douglas Abbot, Canada. In September Sir Stafford visited Washington for further financial talks between the three countries; and he also represented Great Britain at the annual meetings of the International Bank for Reconstruction and Development and the International Monetary fund. He returned to Great Britain on Sept. 17 and the following evening announced in a broadcast that the government had decided to devalue the pound. He visited Brussels and Paris many times during the year for meetings of the Organization for European Economic Co-operation and of the finance ministers of the Brussels treaty powers. In April he visited Italy where he had talks with Italian ministers.

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CUBA. An island republic in the Caribbean sea, including the island of Cuba, the Isle of Pines, and other minor islands and keys. Area of the main island: 44,217 sq. mi. (Isle of Pines, 1,180 sq. mi.). Pop. (Dec. 1947 est.): 5,295,000. Racial distribution is officially calculated at 75% white (about one-third of this group is mulatto), 24% Negro and 1% Asiatic (largely Chinese). An estimated 200,000 Spaniards live in Cuba. Havana (pop., 1949 est., 800,000) is the capital and chief port. Other chief towns (pop., 1946 est.): Santiago de Cuba (152,000); Camaguey (87,000); Matanzas (55,000). Language: Spanish. Religion: predominantly Roman Catholic. President of the republic, Dr. Carlos Prío Socarrás; prime minister, Dr. Manuel A. de Varona.

History. The development of Cuban affairs during 1949 was uneventful. Public discussion was chiefly focussed upon economic and financial position. The outlook for the marketing of sugar was clouded early in the year; but gradually the entire surplus was disposed of and the year ended with a prospect of marketing the larger crop which favourable weather was foreshadowing for the season 1949-50.

During 1949 the volume of imports declined by 10%; bank clearings were down slightly more than seasonally through the year and both price and wage levels rose. Some industrial expansion, however, took place; and there were indications of renewed mining activities. The search for oil, sporadically promoted in former years, became more intense. The construction of an oil refinery was carried forward. Road building progressed and some steps were taken toward the rehabilitation of railway rolling stock and railway bed. The availability of construction materials from the United States spurred the construction of new housing (chiefly multiple) in the capital and provincial towns.

There was a perceptible increase in apprehension over the stability of various trust funds established to support industrial pensions and the government disability system. On Oct. 11 the president announced a comprehensive financial programme, seeking congressional authorization to contract a long term loan for as much as 200 million pesos. This borrowing would involve refunding only in insignificant measure, as initially projected, and would envisage a programme of extensive public works of new highways, new housing for urban and agricultural workers, port improvements, aqueducts and irrigation and an intensive cultivation of the tourist business. The debates brought little to light as to the practical aspects of the programme; on Nov. 17 the borrowing was authorized. Discussions with financial groups in the United States began before the end of the year. Progress was made toward a treaty with the United States for the elimination of the double taxation of income.

The closing months of 1949 were overshadowed by serious difficulties with the Dominican Republic (*q.v.*). The government of the latter alleged that Havana was the centre of conspiracies to organize expeditions to overthrow the Dominican regime. The Cuban congress met in special session at the end of December to confer emergency powers upon the executive in the event of attack. The Organization of American States was officially requested to investigate the charges. (C. McG.)

Education. Schools (1945) elementary and secondary: state, pupils 498,286; private, pupils 72,000. There were 21 institutions for advanced education and the University of Havana.

Agriculture. Cuba is the world's chief exporter of sugar. Production in 1948 was 6,675,000 short tons of raw sugar (17% of world's production) and 340·8 million gal. of strap molasses. Other main crops (short tons, 1948): leaf tobacco 28,000; coffee 36,440; pineapples 186,000; rice (milled) 44,000. Livestock ('000 head; July 1, 1946): cattle 4,136; pigs 1,338; sheep 154; goats 141.

Industry. There are 160 sugar mills throughout the island. Other production in 1948 included: cigars 620 million; cigarettes 7,691 million; cement 1,676,200 barrels; cotton piece goods 38·9 million yd. Refractory chromite (1948): 109,612 long tons. Other minerals include copper, gold, zinc and iron ore.

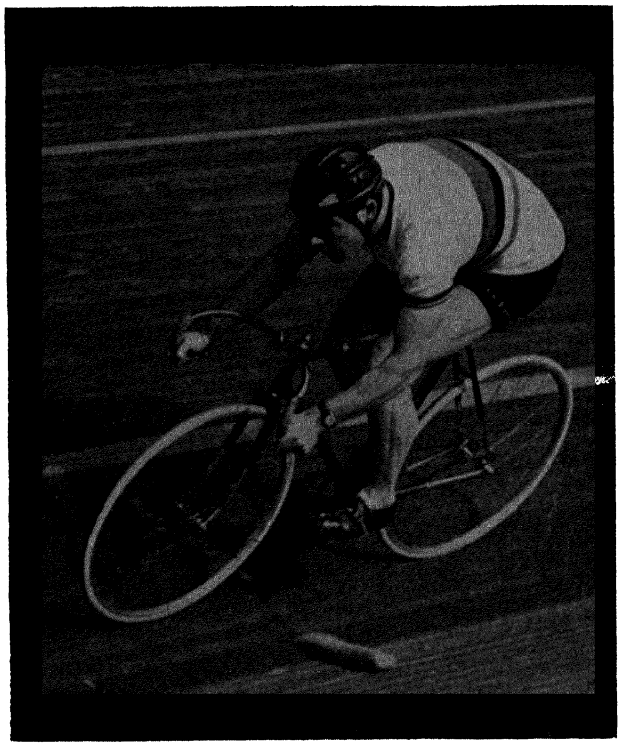
Foreign Trade. (Million pesos, 1948) Export $709·8, import $527·8. Chief exports: sugar (82%), molasses (5%) and tobacco (4%). Chief imports: rice, butter, flour. The U.S. supplied 79·7% of the total imports and absorbed 51 6% of the exports.

Transport and Communications. Railways (1949): state 3,017 mi.; private (mainly sugar companies) 7,870 mi. Roads (1949) included 1,720 mi. of paved highways and 600 mi. of improved highways. Licensed motor vehicles (Dec. 31, 1948): cars 40,878, lorries 24,634, lorry-trailers 320, buses 4,118. Shipping (June 30, 1948): merchant vessels (more than 100 gross tons) 34, tonnage 34,684. Telephone (Dec. 31, 1948): subscribers 93,426.

Finance and Banking. (Million pesos) Ordinary budget (1949-50 est.) revenue 97·7, expenditure 97·5; extraordinary budget (1949-50 est.) balanced at 134·5. National debt (June 30, 1949): 107·3 of which 75·3 was foreign Notes in circulation, including U.S. currency (June 30, 1949): 644·1. Gold reserve (June 30, 1949): 301. The monetary unit is the *peso* (written $) officially pegged at par with the U.S. dollar.

CURAÇAO: *see* NETHERLANDS OVERSEAS TERRITORIES.

CYCLING. In 1949 for the first time a British rider won the world professional sprint championship. The races



R. H. Harris, Great Britain, setting up a 1,000 m. standing start world record at Milan, Oct. 23, 1949. His time for the distance was 1 min. 9 4/5 sec.

were held in August in Copenhagen, Denmark. R. Harris beat J. Derksen (Netherlands) in the final of the professional sprint. The amateur sprint was won by S. Patterson (Australia) who beat J. Bellenger (France). K. E. Anderson (Denmark) beat C. Cartwright (Great Britain) in the amateur pursuit.

The outstanding rider of the year was Fausto Coppi (Italy), who in 1949 won the Giro d'Italia, the Tour de France, the professional pursuit championship and finished third to H. Van Steenbergen (Belgium) and F. Kubler (Switzerland) in the professional road race. Other world champions were:— H. Faanhof (Netherlands), who won the amateur road race, and E. Frosio (Italy) who won the professional motor-paced event.

The winner of the British best all-rounder competition was Kenneth Joy (Medway wheelers). He achieved an average speed of 22·808 m.p.h. for events at 50 mi., 100 mi. and 12 hr., to beat K. R. Whitmarsh (Southampton wheelers) by ·096 m.p.h. The Medway wheelers for the second successive year won the team championship. The ladies' competition, at 25 mi., 50 mi. and 100 mi., was won by Eileen Sheridan (Coventry cycling club) with an average of 21·827 m.p.h.

The Isle of Man 75 mi. road race in June was won by Desmond Robinson (Huddersfield). The national massed start championship in September was won by A. D. Newman (Concorde R.C.C.), second in the race in June.

Peter Beardsmore (Medway wheelers) broke the London to Brighton and back record, when, on Oct. 2, he covered the 104 mi. in 4 hr. 36 min. 8 sec. Two weeks later Kenneth Joy reduced the time to 4 hr. 34 min. 13 sec.

In June, H. Parkes (Medway road club) set up new figures for the Land's End to John O'Groats tricycle record when he covered the 872 mi. in 3 days 13 hr. 3 min. A month later J. K. Letts (Ealing Paragon) recorded a time of 3 days 9 hr. 27 min. During the year Albert Crimes (Crewe wheelers) established new tricycle competition record figures for events at 50 mi., 100 mi., 12 and 24 hr.

C. G. Baxter and R. T. Coleman (South Lancashire R.C.) established new figures of 9 hr. 22 min. for the Liverpool—Edinburgh tandem record. (X.)

CYPRUS. British colony and island in the eastern Mediterranean lying south of Turkey and west of Syria and Lebanon. Area: 3,572 sq. mi.; pop. (1946 census): 450,114. Chief towns: Nicosia (cap., 34,463); Larnaca (14,746); Limassol (22,693); Famagusta (15,912). Languages: Greek 80%, Turkish 20%; English also is spoken by some 10%. Religions: Greek Orthodox 80%, Moslem 20%. Governor, Sir Andrew Wright.

History. A report published during the year on the progress of the ten-year development plan showed an expenditure of £1,178,036 on various projects in the 2 years and 9 months since its inception; irrigation, at a cost of £313,915, was the largest single item. Formal announcement of the success of the anti-malarial campaign was made on April 4, when it was claimed the island had been cleared of the malarial mosquito at a cost of £220,000, or approximately 9*s.* per head of population.

Municipal elections were held during May and resulted in slight gains for the right-wing parties which gained control of three main towns and seven rural centres or municipalities. But political agitation for *enosis*, or union with Greece, now supported equally by both right- and left-wing parties of the



Remembrance day ceremony being held in Nicosia, Cyprus, Nov. 1949. On left is the governor, Sir Andrew Wright.

Greek-speaking community, continued to bedevil the political life of the island and prevent any constitutional advance.

The island's economic position, with a very large adverse trade balance, gave rise to serious concern, especially as the cessation began to be felt of those wartime and immediate postwar circumstances which had favoured certain of its products; *e.g.*, wine, and the government took various steps to secure new markets abroad and to aid threatened industries; a trade delegation was sent to London in July and later a scheme was published for the purchase by the Government of the season's entire acceptable production of raisins and zivania.

The interim report was published of the committee on Turkish affairs which had been carrying out an investigation into matters concerning and affecting the Turkish community in Cyprus. It was an all-Turkish committee and, bearing in mind that it dealt with an all-Moslem community, it recommended certain far-reaching reforms including the abolition of polygamy, the discontinuance of the dowry system, restricted divorce subject to a judicial decision and reconstitution of the Sheri courts under a modern name and modern laws: there were numerous other recommendations dealing with pious foundations (*evkaf*), the muftiship and education more peculiar to existing conditions in Cyprus than to the advocacy of changes in popular Moslem custom.

Finance and Trade. Currency: the Cyprus pound, at par with sterling and divided into 180 piastres. Budget (1948): revenue £5,915,985; expenditure £5,812,952. Foreign trade (1948): imports £15,422,091; exports £5,678,617. Principal exports, minerals (cuprous concentrates, iron pyrites and asbestos) and agricultural products. (J. A. Hu).

CYRANKIEWICZ, JÓZEF, Polish politician (b. Tarnów, 1911), appointed prime minister on Feb. 5, 1947. (For his early career see *Britannica Book of the Year 1949*).

On Dec. 21, 1948, after the merger of the Socialist and Communist parties, he was elected one of the three secretaries general of the new Polish United Workers' party. On Jan. 10, 1949, in the Polish parliament or Sejm, he said that the main object of U.S. aid to Europe was to restore aggressive German imperialism. On Sept. 1, in opening the Warsaw congress of the Fighters for Freedom, he attempted to present a synthesis of recent Polish history: from 1919 to 1926 Poland was a pseudo-democracy, from 1926 to 1939 a fascist dictatorship and from 1945 it was, he said, a true democracy. Speaking in November before the central committee of the United Workers' party, he bitterly criticized the opportunism and nationalism of his former Socialist party and alleged that many of its leaders were spies and *agents provocateurs*.

CYRENAICA: *see* Italian Colonial Empire.

CZECH LITERATURE. Under the Communist regime Czech literature left the well trodden paths of the fashionable " isms " and was clearing the ground to elucidate the principles of socialist realism and to make " art a reflection of reality," as defined by Lenin. However, there had always been Czech novelists who were more interested in social background than in personal fate, though they did not make this leaning towards the description of environment a strict rule: for example, Karel Čapek's posthumously published unfinished novel *Life and Work of the Composer Foltýn* is a fictional biography of a quite untypical swindler.

A somewhat wider background was given by Dominik Tatarka, a Slovak, to his novel *Parochial Republic* describing community life in Slovakia during World War II; but socialist realism was still in a theoretical and transitional stage. Adolf Branald's first novel *North Station* showed how passionately Czech railwaymen opposed the German invaders. The leader of these fighters, however, was a crankish stationmaster who regarded sabotage as the ruin of railway property and longed for nothing more than the return of bygone times with their forms and circular letters. Branald's second novel, *Hospital Train*, another picture of the occupation years, was set against the brutality of Nazi officers. The literary solution of topical problems was attempted by Jiří Mucha in *The War Continues*, a chronicle of the after effects of war on men's minds as a result of changed political conditions, by contrasting the character of a " builder " with that of a man who flees abroad.

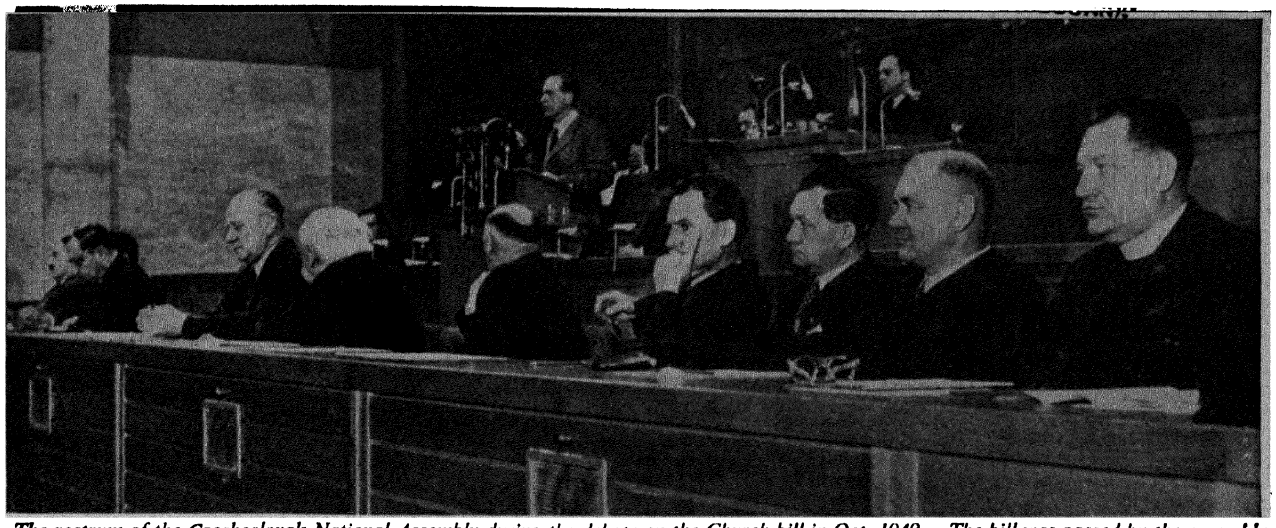
The one really outstanding volume of poetry published in 1949 was František Hrubín's *Hiroshima*. It met with an unfavourable reception because of the poet's sense of resignation, his lack of optimism and his vision of the world as reflected in the fate of Hiroshima. František Halas whose last volume of poems professed itself, as its title read, *In Line*, died in October.

The new tendencies were strongest in drama. A two-year plan of sorts, which began on July 1, 1949, now existed to make scenic art a national affair in which all theatres and playwrights would collaborate. The latter were to write according to local needs. Metropolitan theatres would be expected to produce plays about the fight for peace or the birth of a new intelligentsia and theatres in industrial centres to stage plays on shock workers or the fight for production. Among original new plays, about 20 in all, *Polisher Karban's Gang* by Vášek Káňa might serve as an indication of present trends in Czech drama. It was an authentic play in racy language about metal factory workers with well drawn characters typifying both the positive and negative aspects of one sector of Czechoslovakia's everyday life. Among miners' plays there was Václav Jelínek's comedy *And Who Is More Important?*, the hero of which, an old miner, has only one ambition—to find someone to replace him in the pit. In November a first play *New Fighters Will Come* by Antonin Zápotocký, the prime minister, was performed in Prague. (J. Kr.)

CZECHOSLOVAKIA. A people's republic of central Europe, bounded on the west and northwest by Germany, on the north and northeast by Poland, on the east by the U.S.S.R. and on the south by Hungary and Austria. Area: (before Sept. 28, 1938) 54,244 sq. mi.; after annexation of Subcarpathian Ruthenia by the U.S.S.R. (June 29, 1945): 49,330* sq. mi. Pop.: (June 1937 est.) 15,239,000; (May 22, 1947, census) 12,164,631; (Dec. 31, 1948, est.) 12,408,982.* The population of Subcarpathian Ruthenia was estimated in 1938 at *c.* 725,000; after the liberation over three million Germans left the country, but about 434,000 remained. Languages (official 1948 est.): Czech 67%, Slovak 25%, German 3·5%, Hungarian 3·5%, Polish 0·7%. Religions (1930 census): Roman Catholic 77%, Protestant (all denominations) 7·5%, Czechoslovak Church 5·6%, Greek Catholic 1·6%, Jewish 1·9%, atheist 6%. Chief towns (pop. 1947 census): Prague (cap., 921,416); Brno (272,760); Moravska Ostrava (181,181); Bratislava (172,664); Plzeň (118,152). President of the republic, Klement Gottwald (*q.v.*); prime minister, Antonin Zápotocký (*q.v.*); minister of foreign affairs, Dr. Vladimir Clementis.

History. The main political event in 1949 was the conflict between government and Roman Catholic Church. The hostility of the hierarchy to the rump People's party, the purged remnant of the formerly strong party of Czech Catholic democrats, and to the person of its leader, the suspended Catholic priest Josef Plojhar, a member of the Zápotocký cabinet, had caused serious friction in 1948. Discussion between government and hierarchy for the settlement of outstanding problems began in Feb. 1949 but broke

*Including the so-called Bratislava bridgehead ceded to Czechoslovakia by Hungary under the Paris treaty of peace of Feb. 10, 1947. It comprises three villages with a total area of 9 sq. mi. and a population of 3,146 (Oct 15, 1947).



The rostrum of the Czechoslovak National Assembly during the debate on the Church bill in Oct. 1949. The bill was passed by the assembly on Oct. 14 and came into operation on Nov. 1.

down without agreement. The failure was attributed by the government to Vatican intervention, by the hierarchy to unacceptable interference by the government with church affairs. On June 9 the government set up a body called the Catholic Action committee. It had nothing to do with the Catholic Action organization, but was a Communist-controlled " action committee " similar to those which had been set up at the time of the Feb. 1948 " revolution." It included a number of lay Catholics and some priests, and issued a newspaper called *Catholic News*. Its purpose was to persuade Czech Catholics that the government wished to respect and protect their religion but that the reactionary bishops and the Vatican " in the service of western imperialism " were out to prevent agreement. Archbishop Josef Beran of Prague denounced the committee, and threatened all who supported it with " ecclesiastical sanctions." The archbishop's sermon in Prague cathedral was interrupted by Communists on June 19; and he became a prisoner in his own palace. On July 15 a draft law was published, which provided for the payment of priests' salaries by the state, on comparatively generous terms, but gave the government power to interfere in the church appointments and to take action against priests considered hostile to the " popular democratic regime." The law was passed in October and the hierarchy permitted priests to accept salaries under it as they would otherwise be unable to keep alive. The conflict between church and government was, however, in no way solved. The government controlled the schools and avowedly intended to use them to propagate among the young the " scientific doctrine of Marxism-Leninism." At the same time the government clearly intended to separate at least a part of the Czech Catholic Church from the Vatican. A " national " Czech church could receive sole recognition and, isolated from the outer world, would be as much at the mercy of the state as was the Orthodox Church in the U.S.S.R. Hitherto, with very few exceptions, the Czech and Slovak priests remained loyal to their bishops, and the people to their priests.

The year was marked by a series of conspiracy trials. On Jan. 28 General Heliodor Pika, former head of the Czechoslovak military mission in Moscow and later assistant chief of staff, was condemned to death for espionage. One of the accusations against him was that in 1940 he had passed to the British information about the Red army. At that time Britain was the only fighting ally of his conquered country, while the U.S.S.R. was the ally of its oppressor. If the general did in fact pass information to the British, then he was condemned for treason against Hitler's protectorate. The sentence of death was carried out on June 21. Another war hero, General Karel Kutlvašr, organizer of the 1945 rising of Prague against the Germans, was sentenced to life imprisonment on May 16 for espionage on behalf of foreign powers. On Aug. 30 it was announced that another insurrectionary plot had been unmasked; six persons were executed and ten sentenced to life imprisonment. In March, Captain Philip Wildash, British military permit officer for the western zones of Germany, was arrested by Czech police on a charge of espionage. A number of Czech subjects were subsequently condemned to various prison sentences for providing him with information. In October a member of the U.S. embassy, Samuel Meryn, was also arrested on espionage charges.

The 9th congress of the Czechoslovak Communist party was held in May. After its last congress in 1946, the party's membership had risen from 1,159,164 to 2,311,060. The increase was due mainly to the recruiting campaign before and after the Feb. 1948 " revolution " and obviously consisted to a large extent of unreliable careerists whose devotion to Communism was hardly even skin-deep. In the first months of 1949 a " verification " of members was carried out. But at the time of the congress, though more than 500,000 had been reduced to " candidate " status, only 100,000 had been expelled. Clearly this purge was inadequate and more drastic action was bound to follow. The Rajk trial in September (*see* HUNGARY) " revealed " that nationalistic deviationism and Titoism were rife in the Czech party. During October large numbers of arrests were carried out, including those of many party members but no prominent leaders.

Perhaps the most significant change in Czechoslovakia's foreign relations during 1949 was the adoption in official circles of a new attitude to Germany. As Soviet policy increasingly organized eastern Germany into a centralized Communist state and gave more support to German nationalism—directed of course against the western powers—the old negative attitude of the Soviet satellites to Germany became impossible. Already in February Zdeněk Fierlinger, who had attended a congress of the S.E.D. (Communist) party in the Soviet zone, urged a friendly attitude to the new true democracy which was arising in Soviet Germany. At the party congress in May, Václav Kopecký, minister of information, stated that the test of the " true proletarian internationalism " of Czech Communists would be their relations with the " democratic and progressive elements and popular sections " of Germany whose spokesman was S.E.D.

The Czechoslovak-Hungarian quarrel, fostered by Czech and Slovak Communists in 1945-47 in the tactical interests of Soviet policy, was buried in those same tactical interests in 1949. Agreement was reached on the position of the Hungarian minority in Czechoslovakia and a Czechoslovak-Hungarian treaty of friendship and mutual assistance was signed in Budapest on April 16, 1949, by the two prime ministers, István Dobi and Antonin Zápotocký, and ministers of foreign affairs, Vladimir Clementis and László Rajk. (H. S.-W.)

Education. (1947) Elementary schools 11,836, pupils 998,177; higher grade schools 2,122, pupils 398,721; secondary schools 335, pupils 119,093; technical schools 700, pupils 99,781; universities 7, students 52,456; other institutions of higher education 9, students 5,549.

Agriculture. Main crops (1948, in '000 metric tons): wheat, 1,398; rye 1,124; barley 925; oats 908; maize 252; potatoes 6,578; sugar (raw value) 629. Livestock (in '000 head): cattle (Jan. 1948) 3,275; pigs (Jan. 1948) 2,566; horses (Jan. 1949) 640; sheep (Jan. 1948) 386; chickens (Jan. 1948) 10,976. Food production (1948, in '000 metric tons): milk 2,258; butter 22·8; meat 264 (beef 118·8).

Industry. Persons employed in industry, excluding building (June 1949): 1,395,000. Fuel and power (1948; 1949, six months, in brackets): coal (in '000 metric tons) 17,746 (8,648), lignite (in '000 metric tons) 23,591 (13,137); manufactured gas (in million cu. ft.) 72,818 (39,128); electricity (in million kwh.) 7,514 (4,044). Raw materials (in '000 metric tons): iron ore, metal content (1948) 1,429; pig-iron (Jan. to Nov. 1948) 1,515; steel ingots and castings (Jan. to Nov. 1948) 2,425; lead (1948) 8. Manufactured goods (1948; 1949, six months, in brackets): plate glass (in '000 metric tons) 131 (62), rayon (in '000 metric tons) 18 (11); footwear (in million pairs) 63 (34); railway trucks, coaches and motor trains (in thousands) 11 (9); commercial vehicles (in thousands) 13 (14); cement (in '000 metric tons) 1,657 (823).

Foreign Trade. (In million korunas) Imports (1948) 37,716, (1949, six months) 20,280; exports (1948) 37,648, (1949, six months) 20,060. Main sources of supply (1948): U.S.S.R. 16% United Kingdom 10% and Yugoslavia 6%. Main destinations of exports (1948): U.S.S.R. 16%, Poland 7% and Yugoslavia 7%.

Transport and Communications. Roads (1946), 43,969 mi. Licensed motor vehicles (Dec. 1948): cars 155,000, commercial vehicles 54,000. Railways (1947), 8,161 mi.; passenger-mi. (1948) 11,282 million; freight net ton-mi. (1948) 7,874 million. Air transport (1948), flights 18,144, miles flown 5,995,000, passenger-mi. flown 33,559 million. Telephones (1947), subscribers 350,108.

Finance and Banking. (In million korunas) Budget estimates (1948): revenue 56,896, expenditure 67,056; (1949) revenue 89,320, expenditure 89,278. National debt (Dec. 1948; in brackets, Dec. 1947) 141 891 (135,425). Currency circulation (Sept. 1949; in brackets, Sept. 1948) 69,200 (68,600). Monetary unit: *koruna* with an exchange rate (Dec. 1949; in brackets, Dec. 1948) of 140·0 (201·5) korunas to the pound.

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DAHOMEY: *see* FRENCH UNION.

DAIRY FARMING. There were 3,685,000 cows on farms in the United Kingdom in June 1949, 101,000 (2·7%) more than in June 1948. The number in milk increased by 4% so that, in spite of poor pasture conditions, sales of milk through Milk Marketing boards during the period April to Sept. 1949 were maintained at 2% above those in the corresponding period of 1948. Sales in the period Oct. 1948 to Sept. 1949 were 1,711 million gal., 10% more than in the period Oct. 1947 to Sept. 1948 and 42% more than the prewar average.

Some 10% more cows were dry, ready for calving, in Sept. 1949 than in Sept. 1948, indicating that the trend towards increased autumn calving fostered since the early days of World War II was continuing. The dry summer greatly reduced supplies of grass and other forage crops, making it difficult to feed autumn calvers satisfactorily. To help producers to prepare these cows and heifers for calving a special allowance of concentrated feedingstuffs was made for them through the feedingstuffs rationing scheme. Producers were warned, however, that they must plan to grow an even bigger proportion of the feed for their cows than they had in the past.

The price of milk in the year Oct. 1948 to Sept. 1949 was 238% of the average for the years 1936-38. The price in December was 182% of that in May compared with 166% prewar, reflecting the emphasis in recent years on winter production.

Though the large supply of milk in 1948-49 was to some extent the result of a very favourable season, it turned producers' attention to the prospective outlets for their production in the future. Consumption of liquid milk per head of the population in the United Kingdom was smaller than in several countries in continental Europe but total consumption had, nevertheless, increased by 75% over prewar. Towards the end of the summer of 1949 it became very difficult to meet demands for liquid consumption, but this extreme stringency was temporary and did not change the general view that production was expanding steadily. This prospect, together with the need to expand meat production, led to official approval for the return to calf-rearing of relatively inaccessible farms which had changed to milk selling only since 1939; the regular cash return from milk was, however, a strong attraction to these farmers and there was little evidence of reversion. (K. E. H.)

United States. Production of milk in 1949 was estimated at nearly 118,000 million lb., compared with 115,500 million lb. in 1948. The number of milch cows at the beginning of the year was 24,450,000, compared with 25,039,000 in the previous year. A general decline in the price to the farmer for milk and milk products was in evidence; prices per cwt. were nearly 20% below those of 1948. Retail prices averaged about 1 cent a quart lower than in the previous year. Consumption per person of milk in all forms dropped to 742 lb., almost the lowest recorded. The Agricultural act of 1949 provided for the subsidy of milk and butter fat prices, but the prices fixed were below those actually received by farmers in Dec. 1949.

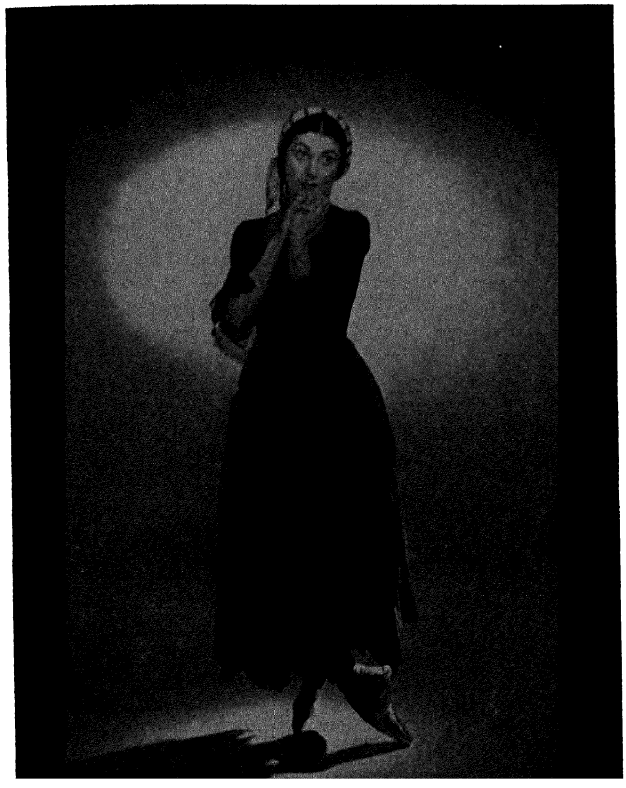
Consumption of butter increased by about 3% in 1949, but the 10·3 lb. used per head was only 62% of prewar consumption. Production was estimated at 1,675 million lb., compared with 1,513 million lb. in 1948. The U.S. production of cheese in 1949 was estimated at 1,190 million lb., as compared with 1,097 million lb. in 1948 and an average of 669 million lb. in 1935-39. Production per head was 7·9 lb. compared with 7·4 lb. in 1948 but consumption was estimated only at 7·1 lb. per head in 1949. Prices were comparatively stable near the government subsidized price and ranged from 37·1 cents per lb. wholesale at Chicago in January to 33 cents per lb. in July, compared with an average of 45·5 cents per lb. in 1948.

Production of non-fat dried milk solids in 1949 was a record of 885 million lb., compared with 659 million lb. in 1948 and 243 million lb. before World War II. Domestic requirements were only a little more than 50% of production, so 40 to 50% of the output in 1949 was purchased by the government as a price support measure for manufacturing milk. Production of dried whole milk was 130 million lb. in 1949 compared with a peak of 217 million lb. in 1945 and a prewar level of production of only 19 million lb. Domestic consumption accounted for less than half the total. Production of evaporated milk amounted to 3,295 million lb., compared with 3,831 million lb. in 1948. (J. K. R.)

DAKAR: *see* FRENCH UNION.

DANCE. The year 1949 was an important one in ballet not only from the point of view of quantity but especially for a definite trend that was beginning to show itself. As usual the bulk of the work came from France and Great Britain.

The ballet of the year was beyond a doubt *Carmen* produced



Margot Fonteyn as Cinderella. She was a member of the Sadler's Wells Ballet company which appeared in New York late in 1949.

by Roland Petit for his own Ballets de Paris. This work which had its world première at the Princes theatre, London, on Feb. 21 ran nightly all through the summer at the Marigny theatre in Paris, breaking every previous record. The company left for New York in October. Its basic weakness was the adaptation of Georges Bizet's score but, that accepted, the result was first class theatre and very nearly first class choreography. Petit told Prosper Mérimée's famous story in five scenes with a realism hitherto unknown in the ballet medium; the characters of Carmen and Don José were well brought out and there was an amusing sketch of Escamillo in the background. The scenery and costumes by the Spanish painter A. Clavé were outstanding, a part of the dramatic entity as they so rarely had been since the time of Serghey Diaghilev. Renée Jeanmaire, always an admirable dancer, became so closely identified with this role that she ran the danger of playing a whole series of *femmes fatales*. Petit's other creations were commonplace and showed the weakness inherent in his tendency for improvisation.

The other ballet of major importance was Frederick Ashton's *Cinderella*, put on by the Sadler's Wells ballet at the Royal Opera house, Covent Garden, on Dec. 23, 1948, and played to capacity at each performance. This was the first full length ballet created by a British choreographer. The problems involved were many, the most complex of all being the telling of the story without the conventional mime used in the 19th century which would irritate a modern audience. The music was by Serghey Prokofiev; another version had already been produced in Moscow. Ashton told his story in a straightforward manner adopting a neo-classical technique that suited both the music and the times. Originality was shown in the variations of the four seasons and in a simple and moving dance for Cinderella with her broom. A feature of the production was the heavy character comedy of the ugly sisters danced by Ashton himself with Robert Helpmann. This knockabout type of British pantomime, so foreign to the average European, finds an echo in Russia and the music allowed Ashton to make the most of it. It did, however, overweigh the dancing especially when, with repeated performances, the comedy broadened. The scenery and costumes were by the Parisian designer Jean-Denis Malclès. The role of Cinderella was created by Moira Shearer during Margot Fonteyn's illness; it was also danced by Violetta Elvin and finally by Margot Fonteyn herself for whom it had been originally created. This ballet was chosen for the Ballet Benevolent Fund Gala performance at Covent Garden on April 25 at which the Queen was present.

Sadler's Wells revived Frederick Ashton's *Wedding Bouquet*, *Apparitions* and *Façade*. The first two works survived their transfer to a larger stage and their quality ensured them a long life in the repertoire.

In October the company made its American début at the Metropolitan Opera house, New York, and played to full houses. It received unanimous praise from the critics.

Alexandra Danilova returned to the London stage for the first time since 1939 as guest artist at Covent Garden in *Coppélia*, *La Boutique Fantasque*, *Giselle* and *Swan Lake*, an event of considerable importance for the young dancers with whom she appeared.

The Sadler's Wells theatre ballet, nursery of the Covent Garden company, continued its search for fresh talent. Its best production in 1949 was *Sea Change* by John Cranko to Sibelius' *En Saga* with costumes and scenery by John Piper. This ballet, in spite of grave weaknesses such as the placing of the inhabitants of a fishing village on their points, showed that Cranko was a choreographer with musical sensitivity who could tell a dramatic story with clarity and coherence.

In Paris the ballet at the Opéra marked time with certain lavish productions by Serge Lifar which failed to attract much critical appreciation. The most charming revival was *Entre Deux Rondes* in which Lifar gave the leading role to a young dancer, Josette Clavier which resulted in a heated controversy since she was promoted for the purpose above the heads of the established *premières danseuses* and *étoiles*. It was a healthy sign that Lifar should be making a breach in a hierarchical system that had stultified so much of the work of a very strong company. Lifar himself danced once again in certain ballets from his own repertoire, the outstanding being *Icare*. In October it was officially announced that the *première danseuse étoile*, Yvette Chauviré, France's outstanding dancer, had been suspended for a breach of discipline in accepting outside engagements. A week later the announcement appeared that Nina Vyroubova, formerly of the Ballets des Champs Elysées, had been engaged as an *étoile*.

The other important French company, the highly creative Ballets des Champs Elysées, toured South America and Europe, spending three weeks in Edinburgh for the festival. For Edinburgh and London it had greatly increased its strength by the return of Nina Vyroubova. With Irène Skorik who had led the company from its inception, this gave it two of the outstanding contemporary ballerinas of the day and the public a chance of discussing their respective interpretations of *La Sylphide*.

The Grand Ballet de Monte Carlo, after its spring season in Monaco, toured in Spain, gave a season in London and two in Paris. This company had a number of star dancers but its creations were, without exception, disappointing and added nothing to the art. The most interesting performances were those given by Tamara Toumanova in *Giselle*, by Rosella Hightower in *The Black Swan* and by André Eglevsky in David Lichine's ballet *The Enchanted Mill*. This company also showed a high level of male dancing, Léonide Massine

appearing as guest artist with George Skibine and André Eglevsky in his revivals of *Le Beau Danube*, *Le Tricorne* and *The Good Humoured Ladies*. The Salvador Dali surrealist ballet *Tristan Fou* with choreography by Massine and music arranged from Wagner's opera fell distinctly flat save in Spain where it had some success. It was felt that such shock tactics were dated, that the striking scenery dwarfed the action and that the maltreatment of Wagner's score was in no sense justified.

The International ballet continued to cater to the insatiable English provincial demand with its ever popular versions of the classical ballets.

Apart from ballet London, Paris and other European capitals saw much work of high quality. Katherine Dunham and her Caribbean-inspired dancers continued their well deserved success. Dunham had succeeded in finding a technique, half ballet dancing and half folk dancing, that suited the coloured physique and temperament and that had its basis in discipline rather than in improvisation. Mrinalini Sarabhai brought the Indian dance to Europe in its purest and most classical form. Her choreographic adaptations of this technique in *Man* and *Buddha's Disciple* showed the Indian dance with integrity and yet in a form that Europe could appreciate. Ram Gopal, essentially a virtuoso performer, toured the Scandinavian countries and Holland with great success. Théophile Gautier once wrote that the Spanish dance was a Parisian invention. Certainly during 1949 Paris had almost a surfeit of the Spanish form with Antonia and Rosario who were applauded both by the public and by the critics, José Gréco with his company and the more classical Mariemma, Argentina's heiress, who also gave a season in London. Mariemma's style emphasized the sharp division between Flamenco (gipsy) dancing and true Spanish dancing; she gained high praise for the exceptionally disciplined and musical nature of her art. Esmeralda, a young Flamenco dancer from Spanish Morocco, made her English début and created an impression through her vitality and striking physical beauty.

Apart from this quantity of dancing events of which few were of high quality, the important feature of 1949 was the marked tendency, especially evident in Great Britain, to bring ballet to the masses. This manifested itself in two directions, through performances in vast sports arenas and through the medium of television. There were four sets of arena performances in London, three at the Empress hall, Earls Court, and one at Harringay arena. All met with great popular success. These galas or festivals as they were described were inaugurated by Alicia Markova and Anton Dolin with a corps de ballet assembled for the occasion. This first series of five performances was a greatly magnified dance recital in which Markova excelled herself by the quality of her dancing in spite of the incongruous surroundings and the fact that the conductor was forced to turn his back on the dancers. For the second set of performances the promoter engaged Danilova, Massine, Frederick Franklin and the Metropolitan company and presented orthodox ballets such as *Les Sylphides*, *Le Beau Danube* and *Prince Igor*. These were completely lost in their mock rustic surroundings that included a lake separating orchestra and stage. For the Harringay performances of Markova, Dolin and the Ballet Rambert the stadium was partially transformed into a theatre with a certain gain in perspective. The last of these performances, three Nijinsky galas at the Empress hall presented a record number of stars, Toumanova, Chauviré, Marjorie Tallchief, Massine, Jean Babillé, Skibine and Skourakoff together with the Rambert company. Such stadium ballet had clearly come to stay but it was already evident that the type of ballet designed for the stage and an audience of some 1,500 was not artistically suitable for performance in a stadium accommodating 8,000 to 10,000 people. Stadium ballet would only succeed if it was conceived in terms of the locale which would mean the birth of a new type of choreography.

British television produced four ambitious programmes entitled *Grand Ballet*, showing the Paris Opera company twice, the Ballets des Champs Elysées and the Ballets de Paris. In view of the technical difficulties involved these performances had great quality. But here again a problem arose over the inevitable tug between what was good ballet and good television and once again, as with stadium ballet, the answer seemed to lie in a new type of choreography that would combine the media. It was certain that 1949 foreshadowed as intimate a connection between ballet and television as between broadcasting and the orchestra. Since there was too little talent for the multiplication of touring companies television might well be the only manner in which the demand could be fulfilled. (A. L. HL.)

United States. The Sadlers' Wells ballet of London made its American début, enjoying a success which stimulated interest in the ballet throughout the country. The company opened at the Metropolitan opera house on Oct. 9 in a full-length version of Tchaikovsky's *Sleeping Beauty*, with Margot Fonteyn in the title role. Later productions included a complete *Swan Lake* and ballets choreographed by Ninette de Valois, Frederick Ashton, and Robert Helpmann. Leading dancers were Fonteyn, Ashton, Helpmann, Moira Shearer, Beryl Grey, Pamela May, Violetta Elvin and Harold Turner.

The New York city ballet, directed by Lincoln Kirstein, named Jerome Robbins as associate artistic director to George Balanchine. It produced Robbins' ballet *Guests*, with music by Marc Blitztein. Balanchine choreographed a brilliant new version of Igor Stravinsky's *Firebird*, with Maria Tallchief in the title role, and décor by Marc Chagall. Other new productions were *Bourrée Fantasque* choreographed by Balanchine and music by Emanuel Chabrier; William Dollar's direction of *Ondine*, (Antonio Vivaldi's music with décor by Horace Armistead).

Ballet Theatre was re-organized after a period of inactivity which had lasted since the spring of 1948. Directed by Lucia Chase and Oliver Smith, with the collaboration of Antony Tudor, it opened in New York on April 17. Principal dancers were Nora Kaye, who danced her first *Giselle*, Igor Youskevitch, Hugh Laing, Janet Reed, Paul Godkin, Diana Adams, and Bambi Linn, with Nana Gollner, Maria Tallchief and Jerome Robbins as guest artists. *La Fille Mal Gardée* was revived. During the summer Ballet theatre appeared at Jacob's Pillow, Lee, Massachusetts.

The Ballet Russe de Monte Carlo toured extensively, and had spring and autumn seasons in New York. Ruth Page's *Love Song* with Schubert's music was presented on March 1, and there was a revival of Michel Fokine's *Carnaval*. New autumn productions included a one-act version of *Paquita* by Alexandra Danilova, with music by Deldevez, *Birthday*, choreographed by Tatiana Chamie to music by Gioachino Rossini, and revivals of *The Mute Wife*, *Igrushki*, and *Graduation Ball*.

The New York City Dance theatre was organized under the auspices of the City Centre of Music and Drama, and held its first season of modern dance in December. The dancers included Charles Weidman, José Limon, Valerie Bettis, Pauline Koner, Nina Fonaroff and Letitia Ide.

Summer dance festivals were held at Jacob's Pillow and at Connecticut college, New London. Jacob's Pillow saw the premieres of Ted Shawn's *The Dreams of Jacob*; Ruth Page's *Harlequinade* and Bentley Stone's *Reunion*.

A complete production of Tschaikovsky's *Nutcracker*, choreographed by William Christensen, was presented by the San Francisco ballet, which also gave his *Parranda*, with a score by Morton Gould, and Lew Christensen's

Vivaldi Concerto. The Pacific Dance theatre presented new ballets by Serge Temoff and Walton Biggerstaff. (L. MRE.)

Ballroom Dancing. During 1949 there were two marked, completely different influences in ballroom dancing. One widespread interest was in square dancing and the other in Cuban rumba. Designers promoted square dance fashions; the dance was seen on television, in newsreels and magazines. The Rumba had become second in popularity to the fox trot. The mambo, with its new syncopated rhythm, was the most popular rumba with expert dancers.

There was a decreased interest in jitterbug, and the tango was danced only in cosmopolitan centres. The samba grew in popularity, as was evidenced by the great number of new compositions. The waltz gained in popularity from the appearance of new song hits. (A. MU.)

DAVIES, CLEMENT, British politician (b. Feb. 19, 1884), was educated at Llanfyllin, Montgomeryshire, and at Trinity Hall, Cambridge. He was a law lecturer at the University College of Wales, Aberystwyth, 1908-9, when he was called to the bar. From 1919 to 1925 he was a junior counsel to the treasury and in 1926 was made a K.C. He was elected to the House of Commons as Liberal member for Montgomeryshire in 1929 and was re-elected in 1931, 1935, and 1945. The election of 1945 left the Liberal party in the House of Commons without a leader owing to the defeat of Sir Archibald Sinclair at Caithness and Sutherland, and Clement Davies was elected to lead the parliamentary party. His active leadership gave purpose to the small group of Liberals in the House of Commons. On Feb. 12, 1949, he broadcast on behalf of the Liberal party in the series of political broadcasts. In Sept. 1949 he led the British delegation to the Inter-Parliamentary union conference at Stockholm.

DEATH STATISTICS: *see* VITAL STATISTICS.

DECORATIONS AND MEDALS. In Nov. 1949 the King approved the award of the *Naval General Service Medal,* first established in 1915 to recognize minor naval operations of sufficient importance to justify the award of a medal, with a clasp bearing the inscription "Yangtze 1949." The award would be granted to all on board H.M. Ships "Amethyst" and "Consort" on April 20, 1949, when those ships were first attacked by the Chinese, to those in H.M. Ships "London" and "Black Swan" which attempted a rescue on April 21; and to those in the Royal Air Force Sunderland aircraft which flew to the "Amethyst" on April 21 and 22. The grant to the "Amethyst" covered the period up till July 31, 1949, the date she escaped from the Yangtze and regained the open sea. Army personnel carried in the "Amethyst" were also eligible for the decoration.

The award of the *Naval General Service Medal* and the *General Service Medal* (Army and Royal Air Force), with an appropriate clasp for service in Palestine after World War II, was announced in Nov. 1947. In July 1949 details were published of those eligible for the decoration. The clasp would be inscribed "Palestine 1945-48," and would be given for service from Sept. 27, 1945, to June 30, 1948. The decoration would be granted not only to certain persons in the Royal navy and the army, but also to members of the merchant navy and to civilians.

Bulgaria. Shortly after the death on July 2 of Gheorghi Dimitrov, prime minister of Bulgaria from 1946, the Bulgarian government announced the creation of the *Order of Dimitrov.* It would be the highest order Bulgaria could confer.

India. Details were made available of the military decorations of the Union of India. The highest decoration for gallantry, *Paran Vir Chakra,* would rank second only to the *Victoria Cross* and would be awarded for the highest form of bravery in the presence of the enemy. It would be a replica of Asoka's wheel made of brown gun-steel with a ribbon of plain saffron.

The second and third awards, *Mahavir Chakra* and *Vir Chakra,* would rank next to the *Distinguished Service Order* and the *Military Cross. Mahavir Chakra* would be a five-pointed heraldic star with a surrounding silver ring and an enamelled gold replica of Asoka's lions superimposed at the centre. *Vir Chakra* would also be a five-pointed heraldic star with a similar ring and a replica of Asoka's wheel.

Netherlands. A new decoration *Resistance Star for East Asia,* 1942-45 was created. It was to be awarded to men or women, who, by their energy, firmness or public spirit rendered particular services in Japanese or Japanese-held territory in east Asia to Netherlands subjects in enemy captivity or distinguished themselves in resisting the enemy in that territory during the years 1942-45. The award could be made posthumously. (X.)

DE GASPERI, ALCIDE, Italian statesman (b. Pieve Tesino, Trentino, April 3, 1881). Appointed prime minister on Dec. 9, 1945, he five times reconstructed his cabinet. (For his early career see *Britannica Book of the Year 1949.*)

On Feb. 11, 1949, the 20th anniversary of the signing of the Lateran treaty between Italy and the papacy, he made his first official call on Pope Pius XII. On March 11 he informed the Chamber of Deputies that the cabinet was unanimous that Italy should join the North Atlantic treaty. On April 17, in a press interview, he announced the government's plan for land reform. He visited Trieste (*q.v.*) on June 10 and pledged the Italian government to continue to work for the return of the territory to Italy. On Aug. 29 he left for Austria where he spent a few days on a private visit.

DEMOCRATIC PARTY, U.S.: *see* POLITICAL PARTIES, U.S.

DENMARK. A constitutional monarchy of north central Europe composed of the peninsula of Jutland and 100 inhabited islands, the largest being Zealand (Själland) and Fyn (Funen). Denmark controls the three straits between Kattegat and the Baltic sea: the Oresund (between Sweden and Zealand), the Great Belt (between Zealand and Fyn) and the Small Belt (between Fyn and the Jutland peninsula). Area, excluding Faeroe Islands (*q.v.*): 16,573 sq. mi. (Peninsula of Jutland: 11,411 sq. mi.). Pop.: (June 15, 1945, census) 4,045,232, (1949 est.) 4,200,000. Chief towns (pop., 1945 census): Copenhagen (cap., 927,404); Århus (107,393); Odense (92,436); Ålborg (60,880); Esbjerg (43,241). Language: Danish, with small admixture of German. Religion: Lutheran, with small Roman Catholic and Jewish minorities. Ruler, King Frederik IX (*q.v.*); prime minister, Hans Hedtoft; minister of foreign affairs, Gustav Rasmussen (*q.v.*).

History. The year 1949 brought Denmark, with unexpected swiftness, into the North Atlantic treaty and saw stable conditions maintained in most fields; but anxiety for the "pro-Danish" minority in South Schleswig caused some political unrest.

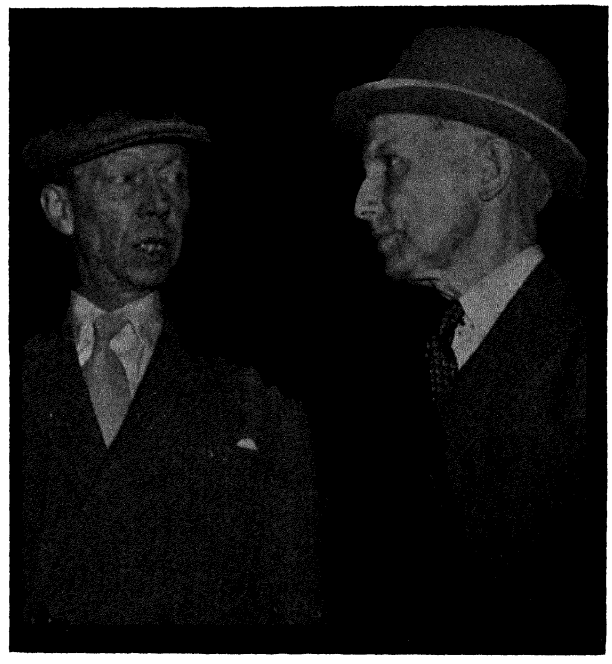
The Scandinavian defence talks of 1948 were continued by the prime ministers and foreign and defence ministers of Denmark, Norway and Sweden at Karlstad, Sweden (Jan. 5-6, 1949), Copenhagen (Jan. 23-24) and Oslo (Jan. 29-30), the Scandinavian ambassadors to Britain, U.S., France and the Soviet Union attending the third meeting. Rasmussen told parliament (Feb. 9) that the government had supported the plan for a Nordic defence alliance and that the idea had not been abandoned, and the spokesman of his party (the Social Democrats) expressed unreserved support for a Nordic

pact. After attending the Labour party congress in Oslo, however, Hedtoft announced (Feb. 20) that the Norwegian Labour party's decision in favour of the North Atlantic treaty created a new situation; and when the tentative suggestion of a Dano-Swedish alliance had been rebuffed by Sweden, the U.S. was informed that the Danish government had reviewed the country's position in relation to the treaty. Rasmussen flew to Washington (March 9) and was there assured that Greenland (*q.v.*) would not be used for aggression, while Hedtoft reminded the people of the fate of isolated small nations when Hitler was expanding Germany's *Lebensraum;* he complained nevertheless of "gross errors" committed by the U.S. and the western European great powers and said that the U.S.S.R. had sacrificed more than any other state in World War II. When Denmark was formally invited by the eight negotiating nations to join the North Atlantic treaty (March 16), the Lower House voted in favour by 119 votes to 23 (Radicals and Communists) and the Upper House by 64 votes to 8, a proposed plebiscite being turned down, and Rasmussen joined eleven other foreign ministers in signing the treaty in Washington (April 4). Through a note delivered in Copenhagen, the U.S.S.R. had protested in vain.

Rasmussen had already (March 14) given the State Department a list of the arms most urgently needed, which was to form the basis of a recommendation to congress, and the Danish ambassador had in turn confirmed that the North Atlantic treaty principle of self-help and mutual help was well understood, within the limits set by Denmark's internal recovery programme; dollar costs of increased arms production must, however, be met from outside. The availability of American machine tools and materials for this purpose was under discussion by members of the M.D.A.P. (Mutual Defence Aid programme) survey team and a Danish group at the U.S. embassy in London during November. The Defence commission reported in favour of a united command for the services, with a single defence minister (June 29). The Danish forces would continue their contribution towards the occupation of the British zone of Germany for two years from May 15, 1949.

Denmark also accepted an invitation to join the Council of Europe (May 5) and was allotted four seats in the consultative assembly. In the delegation attending the first meeting, at Strasbourg (Aug.), were Ole Björn Kraft, Conservative leader, and Thorkild Christensen, economist and former minister of finance. The Scandinavian delegations adhered rather to the British "functional" approach to the new European structure than to the continental tendency towards "constitutional" changes.

These developments had proceeded smoothly; but disquiet over South Schleswig nearly unseated the government, whose policy was widely decried as over-cautious. The last German refugees left Denmark on Feb. 15, but in South Schleswig those who had entered the territory after Sept. 1, 1939, were estimated at 350,000 as against 340,000 "natives" (Danish and German). Despite earlier Danish requests and protests, little alleviation was in sight and on Nov. 2 the Swedish and Norwegian ambassadors and the Icelandic minister in London delivered a memorandum to the Foreign Office expressing the general Scandinavian concern at this refugee concentration. On July 8 the representatives of five Danish parliamentary parties had finally agreed to a statement affirming the South Schleswigers' "right of self-determination" and of free national, cultural and political activity, but the Liberal party recorded its regret at the failure to demand a plebiscite guaranteed in a treaty with Germany. An electoral set-back for the South Schleswig Electoral association in August (75,387 votes, compared with 91,631 in 1947) was, however, followed by the so-called Kiel



Gustav Rasmussen (left), Danish foreign minister, with Count Eduard Reventlow, Danish ambassador to Great Britain, in London, Oct. 5, 1949.

declaration, approved by the Schleswig-Holstein Landdag (Sept. 26), entitling a South Schleswiger, in whatever position, to express his "Danishness" without fear of discrimination. Christopher Mayhew subsequently informed the House of Commons (Nov. 4) that it was largely due to the direct intervention of the British government and the advice which they had given to the German authorities that very considerable rights and privileges belonged to the Danish-minded minority, and he declared that the Danish government were not concerned with frontier rectification and did not claim a plebiscite.

By a new agreement (May 27), 75% of the whole Danish butter export, up to a maximum of 115,000 tons, would be bought by Britain until Sept. 30, 1955, and a dollar saving of Kr. 30 to 40 million would be effected by buying from Britain, for a year, heavy fuel oils hitherto purchased from the U.S. New trade talks were, however, postponed from Oct. 21 to December, because of devaluation problems, and on Nov. 4 the British ambassador was handed an *aide mémoire* expressing the Danish government's concern at the rise in price of British coal, which would hamper Danish industry.

Both a congressional committee and W. A. Harriman expressed approval (April) of Denmark's progress under the European Recovery programme, although details of Denmark's long-term plans were criticized (May 3). Of Kr. 528 million credits, by May 1949 the country had used only Kr. 250 million for imported goods. But though the inflation danger was said by the director of the National bank to have passed, the minister of trade, Jens Krag, declared (June 4) that Denmark faced a serious financial crisis: the dollar income had almost dried up, the sterling debt had increased and unemployment among skilled workers was growing. On Oct. 20 the government won a vote of confidence on its economic policy (64 to 35, with 39 abstentions), which included the decision to devalue the krone with the pound sterling, but opinions remained much divided on the right course to pursue. Seeking a regional currency and trade agreement of the type recommended by the Organization for European Economic Co-operation (*q.v.*), Great Britain approached Denmark, Norway and Sweden; but the first

talks (Dec. 15-17) revealed chiefly the difficulties in the way of early action. Textile rationing was abolished, except for cotton goods, on April 5, and nearly ten years of meat rationing ended Nov. 21, meat prices simultaneously rising 50%. A wage increase of Kr. 15 monthly, with a larger holiday bonus, was agreed between the seamen's representatives and the shipping companies (April 1). The cost of living index in October was 179 (1935=100), the same as a year before.

Four hundred persons condemned to less than 10 years' imprisonment for collaboration with the Germans were amnestied on June 5, the centenary of the Danish constitution; altogether 20,661 had been tried for treason, collaboration of war profiteering since 1945, and about Kr. 120 million had been paid in compensation or fines.

Education. (1946-47) Schools elementary 4,163, pupils 481,395, teachers 18,517; middle and secondary, pupils 73,437, technical 362 pupils 50,752; two universities and six institutions of higher education, with 13,166 students and 416 professors and lecturers No illiteracy.

Agriculture. Main crops ('000 metric tons, 1948; 1949 est. in brackets): wheat 254 (295); barley 1,459 (1,565); oats 988 (945), rye 400 (450); potatoes 2,937 (1,900). Livestock (July 16, 1949). cattle 2,962,000; sheep 67,000; horses 528,000, poultry 25,199,000; (Oct 8, 1949) pigs 3,029,000 (only 154,000 less than prewar). Supplies of butter for export were 33% larger than in 1948, and egg production was 40% higher. Index for animal agricultural production was 97 in Sept. 1949 (1935=100) Fisheries (1948) total catch 215,053 metric tons valued at Kr. 179 8 million

Industry. Industrial establishments (1948) 109,288; persons employed 641,379. Fuel and power: coal, imported ('000 metric tons, 1948; 1949, six months, in brackets) 2,728 3 (1,607 0); gas produced ('000 cubic m., 1947-48) 306,000; electricity (1947) 1,068 million kwh ; crude oil, imported (metric tons 1948; 1949 in brackets) 19·6 (20·1) Manufactures (1948, output in million kroner) food and drinks 1,683 7; iron and metal working 1,052·1; chemicals 786 6; textiles 739·9, clothing and footwear 623 4, cement, porcelain, glass, tiles 339·2; wood-working 220 1.

Foreign Trade. (Million kroner, 1948; 1949, six months, in brackets) Imports 3,418 6 (2,159·3); exports 2,730 5 (1,609 9).

Transport and Communications. Roads (1949) 56,300 km. Licensed motor vehicles (Jan 1949). cars 110,545, lorries 54,857. Railways (1949) 4,726 km., traffic (2nd quarter, 1949) 43 9 million passenger-km , 259 5 million ton-km. of goods Shipping (Jan 1949). vessels 2,297, tonnage 1,200,000. Telephone subscribers (Dec 31, 1947): 493,147. Wireless licences (Sept 1, 1949) 1,201,639.

Finance and Banking. (Million kroner) Budget (1948-49 actual) revenue 1,771 6, expenditure 1,771·7; (1949-50 est) revenue 2,073·0, expenditure 2,065·9. National debt (March 31, 1949; in brackets March 31, 1948): 4,766·8 (4,529 4) Currency circulation (Aug 1949; in brackets Dec. 1948)· 1,432 4 (1,619 0). Gold reserve (Aug 1949). U.S. $32 million. Savings and bank deposits (Aug 1949; in brackets Dec. 1948): 4,074·7 (3,909 1). Monetary unit· *krone* (pl *kroner*), with an exchange rate of £1=Kr. 19·34; Kr 1=U S cents 20·79, (from Sept. 19) 14·45

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DENTISTRY. During 1949 the demand for dental treatment under the British national health service continued on the same unexpectedly high level as obtained during 1948 and dentists were subjected to heavy and continuous strain. The Penman committee, set up by the minister of health to conduct an investigation into the average time taken by dentists to perform certain operations, concluded that 64% of the dentists were, on an average, working rather longer than nine hours a day for a five and a half day week, and went on to say, " As a body, they have been trying to cope with the difficult problem of keeping pace with demand without loss of efficiency and, as a body, the working party thinks they should have received more gratitude and less adverse criticism than has actually been the case." The criticism referred to arose mainly in respect of the high earnings of a few practitioners who had worked excessively long hours. These long hours of work raised the remuneration of dentists as a whole to a figure above that which had been anticipated and led to a substantial increase in the cost of the service. To meet this position the minister of health, without consulting the profession, reduced the scale of fees by approximately 20%. This action and a gradual tightening of the control over the treatment given by dentists caused widespread dissatisfaction in the profession. On the other hand, the removal of economic barriers enabled a large number of persons to receive dental treatment of which they were in need but for which they could not pay. Nevertheless the dental services provided by local education authorities for school children were drastically curtailed because dental officers under these authorities considered they had not been offered adequate salaries and many resigned to enter private practice.

On the scientific side the year was marked by an increasing interest in research directed towards the discovery of the causes of dental caries and a growing disposition to question the validity of some of the accepted theories. New ground was broken in a paper by H. F. Atkinson and Professor E. Matthews, " An investigation into the Organic Components of the Human Tooth: A study of Sound and Carious Dentine," *British Dental Journal*, vol. 86, no. 7, April 1, 1949. This carried the work of other investigators a stage further and strengthened the belief that a breakdown of the organic components of the enamel constituted the first stage of caries.

The annual meeting of the British Dental association heard a paper by Gilbert J. Parfitt, " Topical Application of Solutions of Fluorides to the Teeth," *British Dental Journal*, vol. 87, no. 3, Aug. 5, 1949. The author reviewed the work that had been carried out in America and elsewhere on the effect of painting the teeth of children with solutions of fluorides. H. H. Stones, F. E. Lawton, E. R. Bransby and H. O. Hartley in " The Effect of Topical Applications of Potassium Fluoride and of the Ingestion of Tablets containing Sodium Fluoride on the Incidence of Dental Caries," *British Dental Journal*, vol. 86, no. 11, June 3, 1949, reported that they were unable to confirm the results obtained in America. However, later in the year a working party was appointed to organize a large scale investigation into the possibilities of preventing dental caries in children by this method. Ample material was available in the school dental service of Great Britain for such an investigation and, although the results cannot be available for some time, its inauguration constituted one of the major advances achieved in the year. (B. J. W.)

DERMATOLOGY. Aureomycin continued to exhibit remarkable versatility as an antibiotic. Research showed that it exerted bacteriostatic or bactericidal activity against a wide range of both gram-negative and gram-positive bacteria, including penicillin-resistant and streptomycin-resistant organisms. It proved highly effective against most strains of Rickettsia, as well as viruses of psittacosis and lymphogranuloma venereum.

In most of the groups of cases of rickettsial infections that were reported, the outstanding feature was the uniformity with which the fever and symptoms subsided in relation to the treatment, irrespective of the time when treatment was begun. Where similar cases, treated symptomatically, were available for comparison, a considerable reduction of the period of acute symptoms, fever and rash and a decided shortening of the convalescent period were noted in the aureomycin-treated cases. There were no complications and no deaths in these cases.

Clinical improvements in symptoms of the acute illness usually occurred within 24 hr. after oral therapy with aureomycin had been started. The temperature returned to normal, either during or before the third day of treatment, and the rash in the cases of typhus or spotted fever usually faded at about this time.

Experience with the use of aureomycin in the treatment of lymphogranuloma venereum showed that it had a definit

effect in the acute cases and some benefit, particularly as an adjunct to surgical and other measures, in the management of chronic cases. Some of the chronic cases relapsed after cessation of treatment.

A number of cases of pyoderma of various types, some in newborn infants and in patients with other severe systemic diseases, showed improvement in varying degrees and for varying periods under treatment with aureomycin, after failure to obtain benefit from penicillin and streptomycin. Many of the lesions yielded penicillin and streptomycin-resistant staphylococci. In some cases of herpes zoster in which treatment was undertaken early the lesions failed to progress, the pain subsided, new lesions failed to appear and old lesions began to dry up and healed promptly after treatment with oral aureomycin was instituted. This antibiotic drug proved particularly useful in cases with aphthalmic distribution of the lesions. Relapses in herpes zoster occurred with new lesions reappearing, after treatment was discontinued prematurely, but aureomycin was again given with good results in some of these cases.

One hundred unselected patients with scabies were treated with a new preparation of the gamma isomer of hexachlorocyclohexane in a vanishing cream base, with which A. B. Cannon and M. E. McRae had obtained 100% cures. Complete relief from pruritus within 24 to 48 hr. was reported by about half the patients and many observed that itching ceased within two to three hours. Pronounced clinical improvement was seen in all cases after one application. Sixty-one, or nearly two-thirds of those under observation, showed no signs of activity after a single treatment. Thirty-six were given two treatments and three patients received three. All were cured and in no case could the acarus be demonstrated after the first application of the cream. This remedy was found to be effective in cases in which other preparations had failed. No cases of irritation or sensitivity occurred, either as primary or late manifestations, and there were no contra-indications even in the presence of severe secondary dermatitis. This preparation was also successful in the treatment of all types of pediculosis.

Increased use of beryllium in industry brought to light several new pathologic reactions among workers handling it; and beryllium was added to the ever expanding group of serious industrial intoxicants. In the beryllium refining industry, cases of acute dermatitis occurred from contact with the soluble salts. Crystals imbedded under the skin produced foreign body reactions with ulceration. Extensively proliferating granulomas necessitating wide excisions developed following cuts from glass fragments in which particles of beryllium phosphor remained. (*See* INDUSTRIAL HEALTH.)

Bacitracin, another antibiotic drug, was used with success in some superficial pyogenic diseases of the skin. J. L. Miller, M. H. Slatkin and B. A. Johnson found it effective in impetigo contagiosa, folliculitis, infectious eczematoid dermatitis, ecthyma and dermatitis repens, but of only limited value in sycosis vulgaris. Their results were best with bacitracin in a concentration of 500 units per gram and an oil and water or greaseless carbowax base.

Excellent results were reported by W. E. Wooldridge and H. L. Joseph in the treatment of circumscribed and disseminated neurodermatitis and other itching dermatoses by the local application of phenindamine (thephorin) ointment. In the cases that responded to this drug, improvement in the eruption was noted in a week and once improvement became evident, it was progressive and usually reached a peak within four weeks. Even though no more improvement occurred in most patients after that time, they could be maintained in an improved condition.

Since the advent of streptomycin and its proved effectiveness in the treatment of granuloma inguinale, many trial dosage schedules had been used to attempt to standardize a regimen of therapy. M. H. Samitz, P. N. Horvath, P. P. Mari and H. Berman reported 19 cases of chronic granuloma inguinale treated with a uniform total dosage of 20 grams of streptomycin administered in fractions of 0·5 grams every three hours for five days. All patients responded rapidly and there were no recurrences during an observation period of 6 to 15 months. (H. Fx.)

DIABETES. The first international conference of Diabetes associations was held in Brussels, June 9, 1949, under the leadership of Professor J. P. Hoet of Louvain, Belgium. Papers were read upon heredity, social relationships, the diabetes detection drive in the United States, life insurance and the employment of diabetics in government and private agencies. Representatives were present from 12 or more countries. The American Diabetes association expanded its efforts during 1949, concentrating upon a diabetes detection drive for the second year. The drive attracted much attention in the press, radio and from medical bodies; industrial organizations participated more freely than in the past. There were now 20 affiliated societies of the American Diabetes association in the U.S. and Canada. Many of these had two sections, one for physicians and the other for the lay public. The diabetes branch of the United States Public Health service conducted large scale demonstration activities in co-operation with local medical societies and health departments in Brookline, Massachusetts, Jacksonville, Florida, and it began similar surveys in Milwaukee, Wisconsin, and Dallas, Texas. The Oxford, Massachusetts, and Jacksonville surveys were not entirely comparable but for new cases were not significantly different, being 1% and 0·9% respectively. To facilitate the detection of probable diabetics, the Wilkerson Heftmann blood sugar five minute screening test was devised; with this and the Hewson clinitron, more than 100 blood sugar tests could be performed hourly.

The number of diabetes homes and camps for children continued to grow. In the summer of 1949 there were at least 11 such camps in the U.S. and Canada. In England many diabetic children with unsatisfactory home surroundings were placed in various publicly and privately supported homes for complete treatment and education. The Clara Barton Birthplace camp in North Oxford, Massachusetts, was extended to include older girls.

The steadily increasing duration of life of diabetics was shown in a compilation of fatal cases by the George F. Baker clinic. Beginning about 1900 steady progress was noted in each age group of patients. Those who developed the disease between 10 and 19 years of age had the shortest duration of life, if one allowed for a normal reduction of expectancy due to age; adolescents were the most difficult to control. The percentage of fatal cases surviving 20 years of diabetes in 1949 was 24·1% for all diabetics in contrast to 1·8% between 1897 and 1914. A hopeful sign was the fall in morbidity and mortality of diabetic coma, once the scourge of the diabetic. It reached its lowest level, 1·9% among 2,299 cases discharged from one clinic. No deaths occurred in 92 successive coma cases in one hospital, none for two and a half years in another large hospital and only one in two years among cases in a third institution.

A pessimistic view of the diabetic child's expectation of life was taken by G. Fanconi of Zürich, Switzerland, reporting 136 cases in which none of the 87 traced lived more than 21 years. This was in contrast to the experience of the George F. Baker clinic, in which 24% of 2,145 living patients who developed diabetes at under 15 years of age had already reached 25 years of age while 12% had survived the disease 25 years and smaller groups 30 and even 35 years.

The importance of duration of the diabetes in the development of arteriosclerosis became evident in Howard F. Root's study of 202 diabetics with onset between the ages of 15 and 30, although it was shown that control of the disease was also a major factor. High blood pressure rose from 2% to 33%, calcified arteries from 21% to 88%, retinitis from 4% to 60% and proteinuria from 3% to 10%, as the average length of the disease advanced from the first to the third 10-year period.

Continued research emphasized the experimental work dealing with adrenocorticotropic hormone (ACTH) and its diabetogenic action as well as the protective action of glutathione even in humans. Jerome W. Conn found in his experimental subjects (temporarily diabetic by injections of adrenocorticotropic hormone) that the hyperglycæmia fell to normal by intravenous injections of glutathione. Moreover, in a patient with Cushing's syndrome with pituitary diabetes of long standing, the intravenous injection of glutathione brought about an immediate, if brief, fall to normal of the blood sugar. A hint of the connection of carbo-hydrate and purin metabolism was evidenced in patients with gout by the production of typical attacks by an injection of ACTH. Other observations pointed to the close relation of carbohydrate and protein in the promotion of synthesis of muscle protein from animo acids in the blood. (*See* also ENDOCRINOLOGY.)

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DIAMONDS. The trend of diamond sales since the beginning of 1944 is given in Table I.

TABLE I.—DIAMOND SALES, 1944—Sept. 1949
(£ million)

	1944	1945	1946	1947	1948	1949
Gem	13·2	21·0	26·1	20 1	26·8	19 9
Industrial	3·8	3·5	3·5	4·4	11·3	8·5
Total	17·0	24·5	29·6	24·5	38·1	28·4

The unprecedented figure of £38,100,000 for 1948 was chiefly accounted for by the United States taking 80% of the world's production of industrial diamonds, partly for stockpiling purposes; the weight of industrial stones exceeded that of gem diamonds, although the value was lower.

TABLE II.—U.S. DIAMOND IMPORTS, 1948*

	carats	value
Uncut gems	912,762	$44,460,365
Cut gems	389,314	$56,244,934
Industrial	10,418,058	$32,184,225
Total	11,720,134	$132,889,524

* SOURCE: *National Jeweler*, Chicago.

U.S. diamonds imports in 1948 (Table II) compared with 5,458,292 carats for a total value of $109,689,729 in 1947.

The devaluation of the pound sterling had the effect of raising the prices of diamonds.

The Dutoitspan mine, in South Africa, which produces a large number of Cape (or yellow) diamonds and the Jagersfontein mine were re-opened in Dec. 1949. A large diamond, weighing 211·5 carats, which was discovered in South Africa in 1945 and therefore named "The Victory," was on display at the Diamond exhibition in Amsterdam during June and July 1949. One of the most famous and legendary diamonds in history, the "Hope" blue, which for many years was in the possession of the late Mrs. Walsh McLean, was sold at the beginning of 1949 to a New York diamond merchant. (*See* also GEMS; MINERAL AND METAL PRODUCTION AND PRICES.) (X.)

TABLE III.—WORLD PRODUCTION OF DIAMONDS 1944-47
(Thousands of carats)

	1944	1945	1946	1947	1948
Angola	799	804	808*	799	800
Belgian Congo	7,533	10,386	6,033	5,474	6,500
French Africa	130	163	139	180	140
Gold Coast	1,166	812	653	852	850
Sierra Leone	609	504	559	606	500
South Africa	934	1,141	1,282	1,205	1,200
South West Africa	154	153	164	181	185
Tanganyika	91	116	119*	92	139
Brazil	310*	275*	325*	275*	250
Others	48*	30*	45*	90*	95
Total (world)	11,774	14,384	10,127	9,754	10,659

* Estimated. †

DIETETICS: *see* FOOD RESEARCH.

DIOMIDIS, ALEXANDROS, Greek economist and statesman (b. Athens, 1875), was a friend of Eleftherios Venizelos whose Liberal government he joined as minister of finance (1912-14). After World War I he retired from politics and in 1923 was elected governor of the National bank, at that time still the bank of issue. In this capacity he negotiated the refugee loan of 1924 and the stabilization and public works loan of 1928, besides conducting negotiations which led to the creation of the Bank of Greece as the bank of issue (1928). Retiring from public life in 1930 he studied the economics of the Byzantine empire and in 1943 published a two-volume work on the land policy of the Macedonian and Comnene emperors. Before World War II he was honorary president of the Supreme Economic council and from 1945 president of the Supreme Reconstruction board, and chairman of the board of the National bank. On Jan. 20, 1949, he joined the coalition government of Themistocles Sophoulis as a non-party deputy premier; and after Sophoulis's death (*see* OBITUARIES) he succeeded him on June 30 as prime minister of a Populist-Liberal coalition cabinet. He resigned on Jan. 5, 1950.

DISASTERS. During 1949 loss of life and property occurred in the following disasters:

Aviation

Jan. 16 Between Bermuda and Jamaica. A British four-engine transport plane, flying from London to Santiago, Chile, was lost at sea, and 13 passengers and a crew of 7 were presumed dead.

Jan. 27 Near the Canary Islands. A U S. B-29 bomber disappeared while flying from Dakar, French West Africa, to Marham, Norfolk, and the crew of 15 were given up for lost.

Feb 8 Oresund, off the Swedish coast. Twenty-eight persons aboard a Scandinavian air liner lost their lives when their plane crashed into the water

Feb. 19 Exhall, Warwickshire. Fourteen persons were killed when a London-Glasgow British European Airways plane collided in mid-air with a Royal Air Force training plane

Feb. 24 Cuzco, Peru. Twenty-two persons died when a Peruvian air force transport plane crashed on a take-off

May 4 Turin, Italy. Thirty-one persons, including 18 members of Turin's championship football team, died when an Italian air liner crashed into the courtyard of the Superga cathedral.

May 6 Off Portland Bill, Dorset All 7 occupants of a two-engined freighter aeroplane died when it crashed on a test flight.

June 7 Near San Juan, Puerto Rico Fifty-three persons lost their lives when a twin-engined transport plane carrying 81 persons, crashed in Caribbean waters

June 23 Off Bari. A K L M Constellation plane, bound for Amsterdam from Batavia, broke in mid-air and crashed in flames. All 33 occupants were killed.

July 12 Near Bombay, India. Forty-five persons, including 13 well known U S journalists, were killed when a Dutch transport plane crashed.

Aug. 14 Between Ankara and Izmir, Turkey. Seven British, including the air attaché at Ankara, and Turkish air force personnel were killed when their transport crashed.

Aug. 19 Greenfield, near Oldham, Lancs. Twenty-four persons died when a British air liner approaching Manchester from Belfast crashed into a peak in the Pennines.

Aug. 21 Northern Manitoba, Canada. A twin-engined plane crashed about midway between Churchill and Winnipeg, killing the 21 persons on board, including 8 Eskimos.

Sept. 9 Near St. Joachim, Quebec. Twenty-three persons aboard a Quebec Airways plane were killed when the aircraft crashed and caught fire on a mountainside. It was later reported that explosives had been placed on board the plane, and a Quebec woman and a man, whose wife was on the plane, were held.

Sept. 17 London. Nine aircrew of various British planes died in the annual commemoration of the Battle of Britain.

Sept. 26 Near Newark, Notts. Two four-engined R.A.F. Lincoln bombers collided, 12 of the crew were killed and 2 reported missing, during "Exercise Bulldog," testing western allied air strength.

Oct. 28 The Azores. An Air France Constellation plane, flying from Paris to New York, crashed in flames into a mountain, killing all the 48 people on board, who included Ginette Neveu the violinist and Marcel Cerdan the boxer.

Nov. 1 Washington, D.C. The worst civil aviation disaster in U.S. history occurred when 55 men, women and children died in an Eastern Airlines Douglas plane which was rammed by a P-38 fighter plane.

Nov. 16 Stockton, California. Two B-29 planes on a mass training flight collided at 27,000 ft., 18 of the crew of 21 were killed.

Nov. 20 Near Oslo, Norway. Thirty-four persons were killed, among them 27 children, mostly orphans travelling from Tunisia to a rehabilitation centre in Norway, when their plane crashed.

Dec. 1 Near Jacarèzinho, Brazil. Seventeen passengers and four crew members died when a Brazilian transport plane crashed into an isolated mountainside.

Fires and Explosions

Jan. 12 A fire broke out in a home for children at Château d'Oex, Switzerland. Eleven Swiss children and two nurses died.

Feb. 12 Moravska Ostrava, Czechoslovakia. Nineteen miners were reported missing and nine others were injured when methane gas in a coal mine caught fire.

Feb. 15 Near Bautzen, Saxony, Soviet zone of Germany. Reports circulated that 41 persons were killed in the explosion of a gunpowder factory.

Feb. 27 Gambier, Ohio. Nine students died in a fire that destroyed a dormitory of Kenyon college and 24 others were injured.

Mar. 3 Muskegon, Michigan. A mother and nine children, from 4 to 21 years old, died when fire destroyed their cottage.

Mar. 11 Brunswick, Germany. An explosion in a dump in the British zone of Germany killed 13 workers and injured 68.

Mar. 30 Nadachi, Japan. Fifty-seven Japanese were killed and 16 injured when a mine drifted ashore and exploded.

April 5 Effingham, Illinois. Sixty-six persons, including 13 infants, were killed when fire blazed swiftly through St. Anthony's hospital, in the second most tragic hospital fire in U.S. history.

May 4 Glasgow, Scotland. Thirteen salesgirls were trapped and died and 24 persons were injured in a clothing store fire.

May 12 Eleven Russians and eight Germans were killed when a train carrying condemned ammunition exploded near Magdeburg in the Soviet zone of Germany. Sabotage was suspected.

July 16 Prüm, Germany. At least 14 persons were killed, 10 were missing, 77 were injured and 700 made homeless after a cache of dynamite exploded.

July 21 Canton, China. One hundred and twenty persons were reported killed or injured in the explosion of a Nationalist ammunition dump.

July 26 Tarancon, Spain. At least 33 persons were killed and 105 were injured in the explosion of a military arsenal.

Aug. 20-22 Gironde *département*, France. More than 80 persons died in fires that burned about 125,000 ac. of woodland in the Landes *département*.

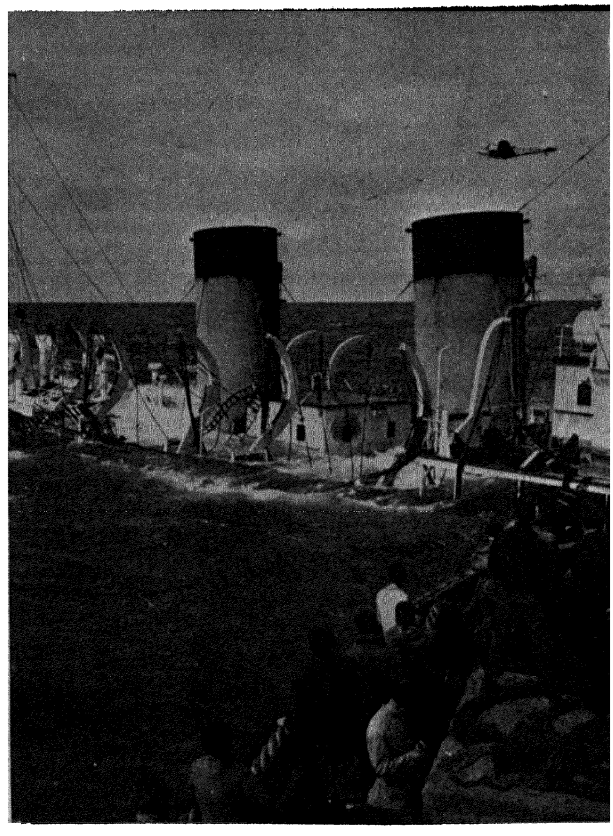
Sept. 2-3 Chungking, China. At least 1,700 persons were killed, 100,000 were left homeless and more than 10,000 buildings were destroyed or seriously damaged in an 18-hr. fire.

Nov. 6 Near Zwickau, Germany. An explosion in a soviet zone uranium mine killed 170 German miners, according to a report published on that date by the western zone newspaper *Sozialdemokrat*.

Marine

Jan. 3 Near Lorient, Brittany, France. Eleven sailors were drowned during storms accompanied by heavy gales, when the French trawler "Robert-Marie" sank.

Jan. 28 Southeast of Shanghai. More than 600 Chinese were missing and presumed dead after a collier and a freight and passenger liner, carrying war refugees, collided and sank.



The wreck of the cross-channel steamer "Prinses Astrid" (2,950 tons) which struck a mine off Dunkirk, France, June 21, 1949.

April 18 Guayaquil, Ecuador. Most of the 89 passengers were drowned or burnt when the ship "Farahon" caught fire and sank.

April 25 Coast of Brazil. The Royal Mail liner "Magdalena," 17,500 tons, ran aground near Tijurca Islands 20 mi. south of Rio de Janeiro. All the passengers were saved, but the ship, which was insured for £3 million including cargo, proved a total loss.

June 21 English channel, near Dunkirk. Five seamen were killed when the Ostend-Dover steamer "Prinses Astrid" struck a mine. All the passengers were safely rescued.

July 26 Near Indore, India. One hundred and forty Hindus returning from a pilgrimage were drowned when a ferryboat capsized in the Narbada river.

Aug. 26 Arctic waters near Norway. Eight persons perished when the U.S. submarine "Cochino" exploded, was set on fire and sank; while 77 of the submarine's personnel were saved. An officer and five ratings from the sister craft "Tusk" were swept overboard and lost during rescue operations.

Sept. 17 Toronto, Canada. A total of 120 persons lost their lives when fire destroyed the Great Lakes passenger steamer "Noronic" at its berth.

Sept. 22 Magellan straits. Seventy-seven Argentine navy officers and men perished aboard the minesweeper "Fournier" when the ship struck a submerged rock and sank.

Oct. 18 Off Berwick, Scotland. Twenty British seamen perished aboard the freighter "Maystone" when it sank during a gale after colliding with the unfinished aircraft carrier "Albion," an 18,300-ton ship.

Dec. 5 Off Korea. A typhoon that swept the east coast of Korea dispersed a vast fishing fleet and drowned the crews of more than 130 boats, totalling several thousand men.

Dec. 13 Off the coast of Spanish Morocco. Sixty-four fishermen were drowned in the sinking of three fishing boats during a storm.

Miscellaneous

Jan. 4 Glasgow. Altogether nine people died as the result of drinking methyl alcohol at two parties. Sixteen more recovered after receiving hospital treatment.

Feb. 12 Quito, Ecuador. Twenty persons were killed and many more were injured when crowds, angered by the disclosure that a radio dramatization of the H. G. Wells novel *War of the Worlds* was fictional and not a real invasion, rioted and burned the building housing the radio station.

Sept. 6 Camden, New Jersey. A war veteran with a passion for collecting weapons shot and killed 13 persons before running out of ammunition.

Sept. 16 Southern Korea. It was announced that at least 95 prisoners who participated in a mass gaol break were killed, and at least 5 guards. 430 convicts escaped.

Oct. 29 Near Lucknow, India. Packs of hyenas killed and ate 97 children in villages during the preceding months.

Dec. 1 Burma. Clashes between government and rebel forces were estimated to have accounted for the deaths of 360 persons.

Dec. 15 Sulu province, Philippines republic. Mohammedan Moro rebels ambushed a constabulary combat unit and killed 71 officers and men.

Natural

Jan. 3 Louisiana and Arkansas. Fifty-nine persons were killed and more than 250 were injured when tornadoes lashed a dozen communities.

Feb. 11 Libya. Ninety-five people died of cold and many were missing after violent sandstorms in the northwest deserts of Libya.

Feb. 20 Praia, Cape Verde Islands. At least 360 persons, queuing up for government famine relief, were crushed to death and 50 others were injured when a wall collapsed on them.

Mar. 1 Germany. At least 30 persons died as the result of gales that struck Germany, near Essen and Düsseldorf, for 24 hr.

April 20 Central Chile. Fifty-seven persons were killed and 89 injured when an earthquake, causing heavy damage, shook several cities.

April 30-May 1 Oklahoma, Kansas, Texas and Louisiana. A succession of tornadoes, including 16 in Oklahoma alone, caused 9 deaths and injuries to 85 persons.

May 20 Maceio and vicinity, Brazil. More than 100 persons died and more than 200 were injured after a 60 hr. torrential rain.

July 14-17 Yangtze and Yellow river valleys, China. The worst floods in half a century were reported to have made 20 million people homeless. In Hunan province alone, 57,000 persons were reported drowned, and 5 million ac. of rice was destroyed.

July 23 Okinawa. Thirty-eight persons died and 252 were injured, while 40,000 buildings were damaged or destroyed when a typhoon struck this U.S. naval base.

Aug. 5-7 Central Ecuador. An earthquake that virtually demolished four towns and laid waste sections of many others killed more than 8,000 persons and left an estimated 100,000 homeless.

Aug. 16-17 Prague, Czechoslovakia. Two days of rain caused floods that took at least 16 lives and did extensive property damage.

Aug. 18 Erzurum, Anatolia, Turkey. Forty-five villages, including 1,565 houses, were destroyed, 437 were killed and 355 gravely injured as the result of an earthquake.

Aug. 31 New South Wales, Australia. Seven persons died, thousands were left homeless and much property was damaged as the result of a flood.

Sept. 1 Japan. One hundred and twenty-three persons died, 51 were missing, 419 injured and approximately 150,000 left homeless as the result of a typhoon, followed by landslides and floods.

Oct. 4 Naples, Italy. Forty persons died and about 300 were missing as the result of floods that followed a storm.

Oct. 8 Oberschlema, Thuringia, Soviet zone of Germany, 100 German miners were reported killed in a flood in a mine.

Oct. 27 Southeastern India. Nearly 1,000 persons were killed in a cyclone that also caused the loss of many cattle and much property damage.

Oct. 31-Nov. 2 Philippines republic. The central Philippines' worst typhoon in 12 years left a total of 975 persons dead or missing and presumed dead, besides 20,000 homeless.

Nov. 28 Northwest United States and southwest Canada. Thirty-four persons lost their lives as the result of storms that swept across a 1,000-mi. front.

Railways

Jan. 15 Yugoslavia, near Trieste. Ten persons were killed and 12 were injured in the wreck of an oil train.

Feb. 12 Near Tarragona, Spain. Thirty persons were killed and 40 injured when the Madrid-Barcelona express was derailed.

Feb. 18 Port d'Atelier, Haute-Saône, France; 43 persons were killed when a locomotive ran into the Nancy-Dijon express.

April 28 Near Johannesburg, Transvaal, South Africa. Three electric trains, all headed in the same direction, were involved in the Union of South Africa's worst rail disaster, resulting in the death of 74 persons and injury to more than 90 others.

July 4 Between Strasbourg and Paris, France. Five and possibly six persons died and more than 50 others were injured when heat-expanded rails derailed the Strasbourg-Paris express.

Oct. 11 Buenos Aires, Argentina. At least 25 persons were killed and 75 injured when a suburban train ran into a goods train.

Oct. 21 Nowy Dwór, Poland. More than 200 persons were killed when the Danzig-Warsaw express left the rails on a curve.

Nov. 7 Near Madrid, Spain. At least 14 were killed and 30 injured when two trains collided between Las Matas and Las Rozas.

Nov. 15 Near Waterval Boven, Transvaal, South Africa. At least 56 persons were killed and 105 injured when a train filled with natives returning to Mozambique plunged off a 70-ft. bridge.

Road

Jan. 3 Martigne-Ferchaud, near Rennes, France. Seventeen football players were drowned when their bus skidded into a pond.

April 19 Near Cabanillas, Peru. Eighteen passengers were killed and 16 others injured when a train struck a crowded bus at a crossing.

June 26 Madera, California. Seven persons, including two infants, were killed and two others were critically injured when the car in which they were travelling crashed into a lorry.

July 19 Bogota, Colombia. Fourteen persons were killed and 15 injured when a bus plunged down an embankment.

Aug. 3 Near Marrakesh, Morocco. Eighteen persons were killed and 25 were injured when a bus fell into a ravine.

Aug. 8 Opladen, Westphalia, Germany. Eighteen schoolboys were killed and 14 others injured when a bus, bringing them home from a summer camp, was struck by a train.

Aug. 10 Near Bloomington, Indiana. Sixteen persons were killed when a bus travelling from Indianapolis to Evansville struck a bridge abutment, skidded and rolled over, blocking an emergency exit door and catching fire.

Aug. 16 Near Fulton, Missouri. Six persons were killed and 22 were injured in the collision of a timber lorry and an open van carrying a crowd of churchgoers.

Aug. 22 Near Moorhead city, North Carolina. Seven persons were drowned when their car plunged from the end of an open drawbridge into 14 ft. of water.

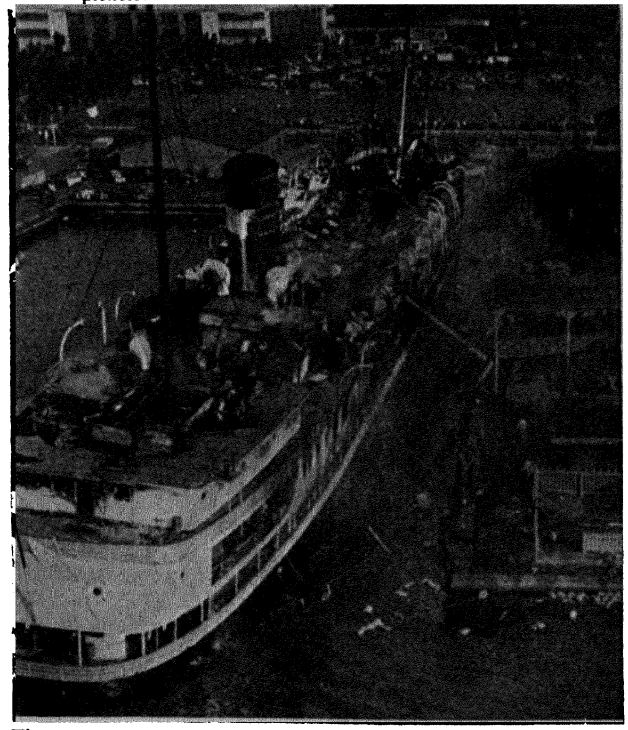
Sept. 19 Newaygo, Michigan. A lorry carrying 19 itinerant farm workers plunged through the guard rail of a bridge and dropped 25 ft. into the Muskegon river. Six of those in the vehicle died, while the others made their way to shore.

Sept. 24 Brno, Czechoslovakia. Forty-two persons were reported killed when a bus carrying 70 passengers left the road and rolled down a steep hill.

Oct. 2 Ontario, California. Sixteen persons were killed and 24 injured when a Union Pacific passenger train ran into a March air base passenger bus.

Oct. 6 Near Middlesex, North Carolina. Seven school children were killed and 20 were injured when a school bus struck a lorry on a narrow bridge.

Nov. 23 Near Lubbock, Texas. Seven persons were killed and 10 others injured when a freight train struck a lorry loaded with cotton pickers.



The steamer Noronic (6,905 tons) after a fire had gutted the vessel at Toronto in Sept. 1949; 132 passengers and crew lost their lives.

DISPLACED PERSONS: *see* PRISONERS OF WAR; REFUGEES.

DISTILLING: *see* SPIRITS.

DISTRICT OF COLUMBIA: *see* WASHINGTON, D.C.

DIVORCE: *see* MARRIAGE AND DIVORCE.

DOBI, ISTVÁN, Hungarian politician (b. Szony, Hungary, 1898). Son of an agricultural labourer, he worked as one himself and, having become interested in social movements, at the end of World War I was active as organizer of agricultural labourers. In 1935 he joined the Independent Smallholders' party, founded five years earlier by Tibor Eckhardt, Zoltán Tildy and other leaders of the Hungarian Peasant movement. He was elected deputy to the Constituent Assembly on Nov. 4, 1945, and was minister of state in the cabinets formed by Tildy (Nov. 1945-Feb. 1946) and Ferenc Nagy (Feb. 1946-May 1947). During this later period he became pro-Communist. He succeeded Nagy as leader of the Smallholders' party after the latter's forced resignation from premiership but was unable to save the party from a heavy electoral defeat on Aug. 31, 1947. He was elected speaker of the new National Assembly and, on Dec. 10, 1948, on the resignation of Lajos Dinnyés, became prime minister and announced the total liquidation of capitalism among the peasantry. At the reorganization of the People's Independence front on Feb. 1, 1949, under the chairmanship of Mátyás Rákosi (*q.v.*), Dobi was appointed one of the two deputy chairmen. On June 10 he was re-appointed prime minister.

DOCKS AND HARBOURS. In 1949 the first year's working of the nationalized dock undertakings in Great Britain showed a deficit in operation of docks, harbours and wharves vested in the British Transport commission. The undertakings showed losses in all but two groups, although gross receipts were 25% above those for 1947. The total deficit for 1948 was £1,329,484. The annual report stated that notwithstanding the existing volume of traffic and increases authorized in 1947, present charges levels would not enable the commission to comply with the requirement that revenue should be sufficient to cover all properly chargeable costs. It was agreed that transfers to the commission should be effected by stages beginning with the south Wales docks and those at Kings Lynn, Norfolk. The docks at Hull, Yorkshire, Grimsby and Immingham, Lincolnshire, were transferred on Jan. 1, 1949, all being treated as one entity based on the Humber.

The final report of the working party on the turn-round of shipping was given special attention and measures were taken to carry out its recommendations. A joint consultative council was established. Its meetings provided opportunities for the exchange of views on the whole of inland transport. Wages questions, conditions of service or statutory committee matters were excluded.

National Dock Labour Board. In 1949 the board published its first annual report covering the period June 28, 1947, when the minister of labour's scheme commenced, to Jan. 3, 1948. The chief difficulty arose from the lack of proper information about future labour needs. Planning on past experience proved unreliable in changing conditions and forecasts on trade developments were requested from government departments and industrialists. Port registers showed an average of 74,585 men, 91·7% available, for the half-year to Jan. 3, 1948. Certain local boards faced labour shortages and 3,000 men were recruited. Use of the scheme's provisions was urged by transfers from other ports. The number of men working away from their home ports daily during six months averaged 520.

Clyde. The reconstruction of Queen's dock was abandoned in favour of a second basin at Shieldhall. The widening of Queen's dock entrance was to proceed later. The Ministry of Civil Aviation height restrictions for buildings near Renfrew airport hampered the design of new warehouse accommodation.

Hull. The first nationalized port advisory committee was formed with representatives of shipping, trading and trade union interests. Co-operating with the Humber port executive officials, the chief docks manager being chairman, it dealt with trade and facilities not dealt with by the joint industrial council.

Leith. Improvements authorized included the completion of new quays and lighthouses at the new entrance to the port and in Edinburgh dock.

Liverpool. The radar station was used by nearly 250 vessels entering or leaving the port. Its value during foggy weather was proved, continuous position information being supplied to vessels. The war-damaged Gladstone-Hornby lock was repaired and put in commission in March. Princess Elizabeth opened the new entrance to Waterloo dock, thus marking the completion of the board's £1,200,000 improvement scheme. The dock board approved a £10 million reconstruction scheme for Langton Brocklebank and Canada docks. A new entrance lock into Langton dock 825 ft. long and 130 ft. wide would abolish the existing entrance.

London. The Port of London authority celebrated its 40th birthday. An unofficial strike of dockers, from early May to July 11, cost the country a loss of 2,300 operating days and held more than 100 ships idle. A state of emergency was proclaimed, a port emergency committee was set up at the port and troops were employed to discharge food cargoes and load exports. A political issue developed owing to a warning of dismissal to strikers by the National Dock Labour board being publicly repudiated by the prime minister. The chairman, Lord Ammon, resigned his ministerial appointment as a government whip but retained the chairmanship of the National Dock Labour board. Bow Creek wharf, rebuilt after bomb damage, re-opened as one of the two main Thames iron and steel discharging points. Designs for a false quay 1,320 ft. long, 29 ft. deep alongside north quay, West India dock, were prepared and two diesel-driven floating grain elevators were ordered.

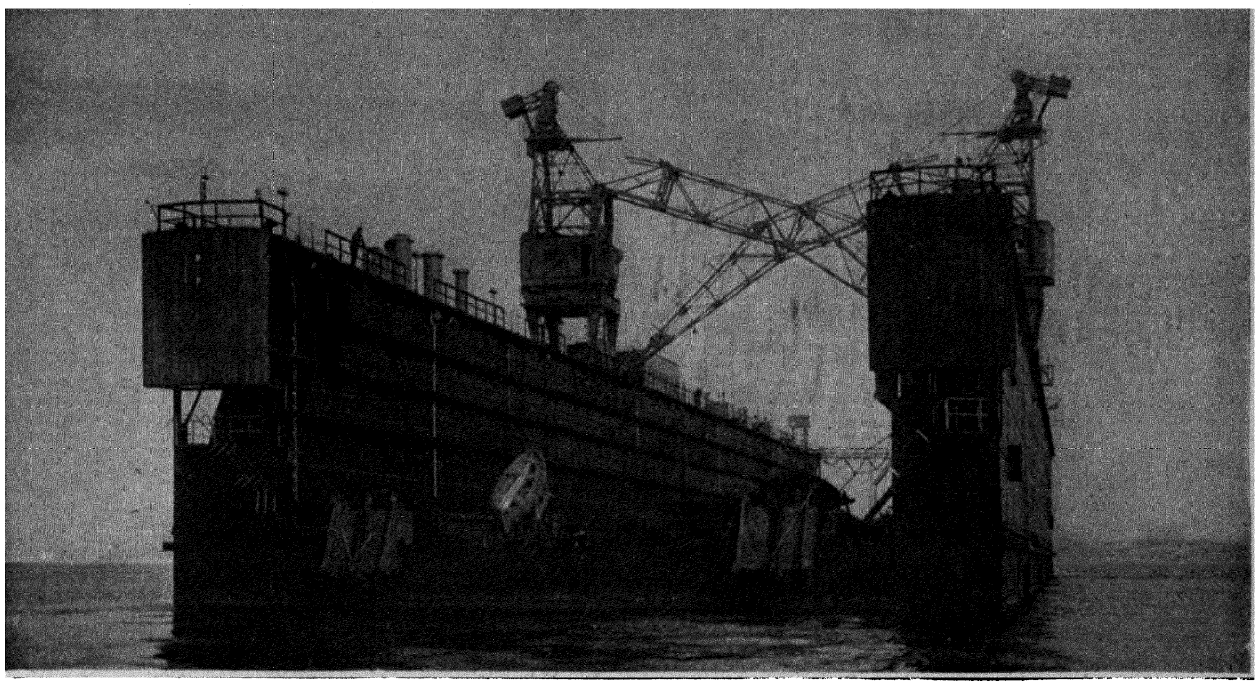
Manchester. Work on the Manchester Ship Canal company's £4 million new oil dock for 30,000 ton tankers began at Eastham, near the entrance to the ship canal. The dock entrance lock was planned to be 800 ft. long and 100 ft. wide. A wet dock would have 40 ft. depth of water and berths equipped with modern facilities for discharging oil.

South Wales. There was increased traffic of nearly 2 million tons, principally at Swansea; but considerable unemployment occurred at Cardiff. Coal exports from all ports in south Wales were only 27% of the total throughout the country (excluding coastwise) as compared with 40% before World War II.

Southampton. At Fawley work started on Europe's largest oil refinery (annual output 5 million tons). Four or five berths to deal with about 350 tankers annually were planned to accommodate the largest tankers foreseen. A new two-storey terminal building and a new " berth 44 " for passengers for the " Queen Mary " and " Queen Elizabeth " were begun.

Sunderland. Improvement schemes at Hendon dock, provision of space by reclamation for storage and straightening and deepening of the harbour entrance channel were proceeded with; a new south pier was completed. A tidal model of harbour entrance was set up to obtain design data.

Tees. Local interests favoured an estuarial port authority, rather than regional control, with the merging of the Hartlepools Harbour commission, the Tees conservancy, the



A German floating dock which was towed from Lübeck to Falmouth, Cornwall, in Aug. 1949, by two deep-sea tugs "Turmoil" and "Marina."

Transport commission's docks at Middlesbrough and Hartlepools, the Stockton corporation quay and private wharfing installations.

Tyne. Two committees of Newcastle city council advocated that all the facilities at Tyne port should be unified.

Australia. Legislation was adopted reconstituting the Stevedoring Industry commission which controlled port waterfront operations. The reclamation for the new Appleton dock, west of the Yarra, proceeded.

British East Africa. Dar es Salaam, Tanganyika, progressed towards becoming a major port capable of accommodating 600 ft. ships of 30 ft. draft. Improvements to the entrance channel, increase of the lighter fleet, additional deep water berths, cranes and rolling stock should, by 1951-52, enable the port to handle 850,000 tons of cargo annually, nearly twice the total for 1948. Construction proceeded of Mtwara port (late Mikindani).

British West Africa. Work was commenced on the extension and development of the harbour at Takoradi, Gold Coast. The new work, which was expected to cost £2,250,000 and was planned to be completed by 1953, included the lengthening of the quay on the north side of the harbour to accommodate six ships instead of three; the construction of new docks in the southwest corner of the harbour; the removal of Cox Fort hill and the building of sidings, cargo platforms and a cement dump on the site; and the construction of a railway maintenance centre.

Canada. The National Harbours board engaged in large constructional works at Montreal, Halifax and St. John, New Brunswick. At Montreal, the Jacques Cartier pier was under reconstruction. Seventy ft. long precast concrete cylinders were being used to carry a concrete deck.

Ceylon. Work at Colombo port included the construction of an oil jetty and two alongside quay berths, enabling direct discharge to road transport.

France. Works completed included repairs at Le Havre and reconstruction at Marseilles and Port du Bouc oil port (Marseilles).

India. The ports at Bombay, Madras, Calcutta and Cochin were given development priority. French experts visited India and surveyed many ports and planned new shipyards. Kandla was being developed into a major port, capable of handling 3 million tons annually. In Calcutta model experiments were conducted for the improvement of the river Hooghly.

Ireland. Work began on Sligo's Irish-American Oil depot to store the oil demand of northwest Ireland and Donegal. The Dublin Port Works board began work on a scheme to provide additional berthage, shed accommodation and a graving dock.

Israel. Constructional work proceeded at Haifa, and a £15 million scheme was planned for Jaffa-Tel Aviv.

Netherlands. A new industrial harbour of Maastricht was begun. The new inland port at Nijmegen, at the confluence of the new Maas-Waal canal with the Waal (Rhine), was taken into operation.

Pakistan. The development of Chittagong into a major eastern port proceeded. The programme provided for 14 additional berths.

Portuguese East Africa. The Portuguese government took over control of the port of Beira and improvements proceeded. A port at Nacale, north of Mozambique, was under construction.

Singapore. Rehabilitation and wharf dredging was completed and re-equipment proceeded.

Sweden. The largest dry dock for use in the Baltic was towed in seven sections from Britain to Stockholm for Finnboda shipyard. (W. A. F.)

United States. In 1949, construction work was carried out on 81 regular river and harbour projects by the Corps of Engineers; of this number, 23 were completed. Maintenance work was performed on 336 projects, including the extensive intercoastal waterways and Mississippi river system, the connecting channels on the Great Lakes, the 490 navigation locks and dams and 270 harbours. During the fiscal year which ended June 30, 1949, $178,301,100 was expended on new work and on the maintenance of river and navigation projects and inland and coastal harbours.

The Rivers and Harbours act of 1949 provided $197,985,690 for maintenance and improvement of the nation's rivers and

harbours. Of this total $114,145,690 was designated for new construction work on 92 projects in 34 states, the District of Columbia and Alaska. Maintenance, operation and care were allotted $77 million; advance planning, $2 million; preliminary examinations and surveys, $1,200,000; and miscellaneous items, $5,640,000.

Advance planning was executed during 1949 on 16 river and harbour projects in ten states. At the end of 1949 there were 1,036 authorized investigations in advance stages of completion. Included in the studies were the coast of California, to determine the advisability of providing harbours of refuge for small craft; major coastal harbours to determine the advisability of increasing harbour depths to accommodate the new types of deep-draught tankers and cargo ships; and beach erosion control studies of the Connecticut coast and of the Illinois coast of Lake Michigan. (*See* CANALS AND INLAND WATERWAYS; STRIKES AND LOCKOUTS.)

(G. HB.)

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DOMINICA: *see* WINDWARD ISLANDS

DOMINICAN REPUBLIC.

A West Indian republic covering the eastern two-thirds of the island of Hispaniola or Haiti. Area: 19,129 sq. mi. Pop. (mid-1949 est.): 2,277,000. Racial distribution is estimated at 13% white, 68% *mestizo* and mulatto and 19% Negro. Ciudad Trujillo (known as Santo Domingo from the time of Christopher Columbus until 1936) is the capital, with a population (1949 est.) of 165,000. Other chief towns (pop., 1948 est.): Santiago (62,520); San Pedro de Macoris (24,200). Spanish is the language, and the predominant religion is Roman Catholic. President (in 1930-38 and from 1942): Generalissimo Rafael Leónidas Trujillo y Molina.

History. The commercial and industrial activities of the Dominican republic in 1949 were moderately stimulated by the firm markets for sugar and coffee. By the late summer, virtually all marketable supplies had been shipped abroad; and at the end of the year a genuine coffee shortage existed as in almost all the other coffee producing areas in the western hemisphere in late 1949, with famine prices being paid for inferior qualities. Nevertheless, the inflow of imports did not at once reflect this brisk activity, since the great bulk of goods imported comes from the United States and coffee and sugar generally are sold in Europe. A slight increase in European exports to the Dominican Republic was noted late in the year. Banking activities reflected the same trends of slightly slower import movement and accelerated exports. There was some expansion of housing construction and improvement in transport and in the hardwood timber trade.

President Trujillo continued to acquire, for cash, extensive armaments, from whatever source available. His government, which had been intermittently upon bad terms with Haiti for some years, became particularly aroused in late 1949 by the alleged existence of conspiracies in both Haiti and Cuba to overturn by violence the Dominican regime. Returning from a cruise in U.S. waters, the president called the National Congress in extraordinary session for the purpose of securing extensive war powers. The Dominican chargé d'affaires at Port-au-Prince, Haiti, was withdrawn, after he had been held incommunicado for a week, as he alleged. Sporadic reports of expeditions of exiles, starting from Cuban soil, continued to circulate through the year, after one such diminutive expedition ended in failure.

Relations with the rest of Latin America were uneventful. The interest of the Dominican regime in European displaced persons continued to attract relatively large numbers of such immigrants, who received extensive governmental assistance.

(C. McG.)

Education. (1948) Schools, elementary and secondary . state 2,756, state-aided 53, private 136; total number of pupils 242 545. There was also a state university at Ciudad Trujillo.

Agriculture. Sugar cane is the chief crop. In the 1948-49 season 525,130 short tons of raw and refined sugar were produced. Other crops (short tons). cocoa (1947-48) 31,000; tobacco (1948-49) 24,800. Livestock ('000 head, 1946): cattle 597, pigs 547, sheep and goats 346, poultry 1,988.

Industry. Industrial establishments (1948): 4,200 including 14 sugar mills, a large chocolate plant (completed in 1948), 2 breweries and a cement plant.

Foreign Trade. (RD$, 1948) Export 82,296,399; import 65,329,183. Chief exports: sugar (51%), cocoa (20%), coffee (8%), molasses (5%) and leaf tobacco (4%) Principal imports: machinery and equipment (14%); foodstuffs (12%); iron and steel manufactures (11%), cotton and cotton manufactures (11%), motor vehicles (8%) Principal sources of imports: the U S. (including Puerto Rico) 79%; Netherlands West Indies 4%; Canada 3·4%; India 3 4%; United Kingdom 2%. Leading customers· the U.S. (incl Puerto Rico) 37%; the United Kingdom 26%; Canada 20%. For the previous ten years the balance of trade was constantly favourable to the Dominican Republic.

Transport and Communications. Railways (1948): state 170 mi.; private (mainly sugar companies) 1,650 mi Roads (1948) about 3.000 mi., including 500 mi. of surfaced highways. Licensed motor vehicles (Dec 1948). private cars 1,930, taxi-cabs 1,194; lorries 2,389; lorry-trailers 44, buses 537 Telephone (1948) subscribers 2,408. Wireless licences (1948)· about 20,000.

Finance and Banking. (RD$) Budget (1949 est.) revenue 66,735,260, expenditure 66,719,649. From July 21, 1947, there was external debt. Short and long term internal obligations (Dec. 31, 1948). RD$ 25,302,544. Notes in circulation (Nov 30, 1949)· RD$ 20,690,000. The monetary unit is the *peso* (written RD$), officially pegged at par with the U S. dollar.

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DONATIONS AND BEQUESTS.

The already high rate of death duties which was raised in the 1949 Finance act severely curtailed large bequests. The second Viscount Leverhulme, who died on May 26, left " as far as at present ascertained " (Aug. 1949) £2,357,039. Death duties amounted to £1,656,475. He made only nominal charitable bequests, the largest being £1,000. The Liverpool (Church of England) Cathedral Building fund, the Congregational Union of England and Wales and the Merseyside Hospitals council each received £1,000.

Other wills of over £2,000,000 proved in 1949 included those of Viscount Portman, £4,493,000; Dowager Lady Peel, £4,274,902; Arthur Guinness, £3,182,427; Viscount Tredegar, £2,357,000; Lord Gretton, £2,302,972; Viscount Portal, £2,122,380.

During the year a personal bill was presented to the House of Lords by Countess Mountbatten of Burma. She wished to obtain greater control over her inheritance under the will of her grandfather, Sir Ernest Cassel. The bequest was subject to restrictions which prevented her dealing with the capital of over £1,400,000. It was stated that her income, after taxation, was about £4,500 a year and that the joint income of Earl and Countess Mountbatten was only one-ninth of what it had been in 1922. The bill was passed unanimously by the House of Lords but, because of opposition by Conservative members in the House of Commons, was withdrawn after a government assurance to introduce a bill to free from similar restrictions all persons affected by such bequests. The Married Women (Restraint upon Anticipation) bill was introduced by the government. It was given a second reading in the House of Lords on July 5 and in the House of Commons on Nov. 7. The attorney general estimated that the number of married women affected was " thousands, but not tens of thousands." An amendment to reject the bill was defeated in the House of Commons by 47 votes to 180.

Doubts were expressed as to whether hospitals under state control in Great Britain could still be considered charities.

In the United States, the First National Bank of Chicago applied to a court to decide whether payments from the estate of E. Stanley Holland, who died in 1936 leaving $1,500,000, should be continued to four hospitals in Britain. At the end of 1949 the application had not been decided.

Solomon R. Guggenheim, American industrialist and art patron, who died on Nov. 3, left $8 million to the foundation bearing his name. In his will he suggested that $2 million of the bequest should be used to build a museum in New York. He left to the foundation the land on which the museum was to be built. He also bequeathed his large collection of non-objective and other paintings, with the provision that his widow should have their use during her lifetime.

Sir Robert Ho-tung, a wealthy Chinese merchant, revealed that he would leave a portion of his fortune for a special trust. He stated that, although not as large as the Carnegie and Rockefeller trusts, it would be considered large in China though developments in 1949 had diminished it greatly.

During the year Nottingham university appealed for a £1 million endowment fund. Within five months £250,000 was received. The appeal was to be open for three years. James P. R. Lyell, a solicitor, bequeathed the bulk of his £39,250 estate to Oxford university, the income to endow a readership in bibliography. He gave to the Bodleian library 100 rare mediaeval manuscripts.

The Jefferson Military college, Mississippi, was offered an endowment estimated at $50 million by Judge George W. Armstrong, an oil millionaire on condition that it should teach supremacy of the white race and should exclude all persons of African or Asiatic birth or descent. The college refused the offer stating that the policies of Judge Armstrong " are not, never have been and never will be the policies of the college." (*See* also UNIVERSITIES AND COLLEGES.) (X.)

DRAMA: *see* THEATRE.

DRAWING AND ENGRAVING. Drawing, the most direct and spontaneous expression of the artist, has always tended to be a private exercise or a starting point for further work, rather than an end in itself. The print on the other hand, intended for general distribution, is as varied in its idiom as are the current trends in painting. In examining contemporary drawing it is possible to be baulked by the unrepresentative nature of the best work exhibited and to turn to the careful and commonplace recordings shown by academic groups. The strongest work seen with the British exhibiting societies during 1949 not infrequently came from sculptors. Among the more expressive offerings of the commercial galleries in London were some incisive pen studies by Sigmund Pollitzer; a group of William Roberts' mechanistic but delicately balanced compositions; some slight but admirable designs by Leonard Rosoman; charming recollections of Italian architecture by Katerina Wilczynski; and an impressive selection of portraits by Wyndham Lewis as part of a retrospective exhibition. Lewis, one of the most able portraitists of his generation, continued through his curved metallic forms to influence several of the younger generation. Little was seen by the more radical British artists but recent drawings were shown by Pavel Tchelitchew, at his best one of the finest of living draughtsmen.

Engraving, etching and drypoint continued to suffer an eclipse in Britain, though the work of William Hayter and others suggested a slight revival of aquatint. Generally, to find stimulating examples of these processes, it was necessary to turn to Switzerland (Hans Erni), Czechoslovakia (the Hollar society) and, pre-eminently, France (where book-production provided a steady stimulus). Without doubt lithography and the monotype were the most popular and successful means of auto-production, and here it was possible to note the emergence of a British school of *peintres-graveurs* capable of holding its own with any country. A high standard was shown in exhibitions at the Royal Society of British Artists and at the Redfern gallery, where among the names that stood out were Robert Colquhoun, Edwin La Dell, Ceri Richards and Humphrey Spender. Non-figurative themes were less frequent than in Paris, where they often took precedence over the manner derived from P. Bonnard and J. E. Vuillard. British lithographs were seen in Austria, and throughout France and Germany. In London recent lithographs by Massimo Campigli and Pablo Picasso were shown, in addition to interesting collections of French prints by all processes. Leaders of the school of Paris contributed to a noteworthy set of cheap lithographs for distribution to schools in Britain.

The Society of Wood Engravers held its first London exhibition after the war. Notwithstanding names like John Farleigh, Robert Gibbings, Gertrude Hermes, Blair Hughes-Stanton and Leon Underwood, however, it would probably be true to say that the use of the wood block was less widespread than in northern and central-eastern Europe (it may be noted that the medium was particularly suited to the kind of *genre* treatment demanded by " socialist realism "). Sofia went so far as to open a permanent exhibition of contemporary graphic art. Elsewhere some lively book illustration was evident in Italy. (M. H. MN.)

Canada. The Society of Canadian Painter-Etchers and Engravers held its usual annual exhibition, which was supplemented by numerous others throughout the country. Prominent among the artists working in etching and dry point were David J. L. Anderson, Robert W. Annand, R. F. Darby, I. Mackinnon-Pearson, Wilbur K. Peacock, E. B. Sisley, J. R. Tate, Fred B. Taylor, Harry D. Wallace and W. J. Wood.

United States. During 1949 the regular large national annual exhibitions took place, of which the two most comprehensive and representative as cross sections of American etching were that conducted by the Library of Congress and the annual exhibition of the Society of American Etchers, Gravers, Lithographers and Woodcutters. Smaller exhibitions, along both national and regional lines, were held by such other long established print organizations as the Chicago Society of Etchers, the Print Makers' Society of California, the Prairie Print Makers, the Northwest Printmakers and the Print clubs of Philadelphia and Albany, while print dealers all over the country, as well as museums and libraries maintaining print rooms, held exhibitions covering all phases of etching and the allied arts.

The names of noteworthy practising etchers in the United States during the year were too numerous to mention at length. Best known among them, however, were Niels Y. Andersen, Will Barnet, Isabel Bishop, Cornelis Botke, Federico Castellon, John E. Costigan, Stephen Csoka, Ralph Fabri, Isac Friedlander, Sue Fuller, Arthur W. Hall, Eugene Higgins, Morris Henry Hobbs, Alfred Hutty, Philip Kappel, Gene Kloss, Armin Landeck, Jeannette M. Lewis, Martin Lewis, Helen A. Loggie, Luigi Lucioni, William Meyerowitz, Helen Miller, Roi Partridge, Margaret Philbrick, Carl M. Schultheiss, Reynold H. Weidenaar, R. W. Woiceske and George H. Wright. (*See* also ART EXHIBITIONS; ART SALES.) (J. T. As.)

DRESS: *see* FASHION AND DRESS.

DRUGS AND DRUG TRAFFIC: *see* NARCOTICS.

DUCLOS, JACQUES, French politician (b. Louey, Hautes Pyrénées, Oct. 2, 1896). A pastry cook by trade, he

joined the French Communist party in 1920. Six years later he was elected member of the central committee of the party and, in 1931, its secretary general and member of the *Politburo*. In 1935 the 7th congress of the Comintern elected him member of its executive committee. He was a member of the French Chamber of Deputies 1924-32 and 1936-40. After the German attack on the U.S.S.R. he directed the resistance activities of the party. In 1944 he was delegate to the Consultative Assembly, and was elected deputy to the first (Oct. 21, 1945) and second (June 2, 1946) Constituent assemblies and also to the National Assembly (Nov. 10, 1946). After the liberation he presided over the Communist parliamentary group and made aggressive attacks on the successive governments after the Communist party had abandoned its policy of participation on May 4, 1947. He represented the French Communist party at the conference of Wilcza Góra in Poland, at the end of Sept. 1947, when the Cominform was founded. On Nov. 19, 1948, in the National Assembly, he denied the charge of Jules Moch, minister of the interior, that the French Communist party was financed by Moscow through the Cominform. On Oct. 13, 1949, when Moch as premier-designate was putting forward his proposed policy in the National Assembly, Duclos made a violent personal attack on him and accused him of responsibility for the death of workers in clashes with the police.

DUTCH LITERATURE. In the course of 1949 Dutch letters suffered a severe loss through the death of that versatile man of letters, philosopher and novelist Nico van Suchtelen (1878-1949), and of the calvinistic poet W. Hessels (*alias* H. Mulder, 1906-49), who, although he had lived in South Africa for a long time, still belonged to Dutch literature because of his poetry. He did not live to see the publication of his impressive collected poems under the title of *Con Sordino*.

Prose literature still lacked a definite trend and style, and actually existed only by virtue of the talent of a few independent authors. There appeared a remarkable collection of short stories by F. Bordewijk dealing with the city of The Hague, *The Stork's Escutcheon*. That unusually prolific author, S. Vestdijk, published among other books, *The Feast of Liberation;* in collaboration with Henriette van Eyk he wrote a novel in the form of letters: *Adventure with Titia*.

With a captivating, if slightly improbable novel *Head or Tail*, Jo Boer won The Hague prize. The most successful book, however, proved to be Anna Blaman's *Solitary Adventure*, published towards the close of 1948, but twice reprinted in 1949. The discussion on immorality in art which arose as a result of this publication extended to the cleverly written novel *The Tears of the Acacias* by the young writer W. F. Hermans, which, however, lacked perspective.

In 1949 Holland commemorated the death of the famous dramatist Herman Heyermans who died in 1924; and dramatic literature was enriched by an important play by Maurits Dekker, *The World has no Waiting-room*, dealing with the atomic scientists' responsibility to mankind.

The greatest woman poet of the Netherlands, Henriette Roland Holst, who celebrated her 80th birthday on Dec. 24, published besides an interesting autobiography *The Fire Burned on* her new lyric poetry in an extensive collection, *Genesis*. Victor van Vriesland's collected poems appeared under the title *Triple Defence;* and Gerrit Achterberg added two new books of poetry, *Hoonte* and *Snow-white*, to the already large number of his poetical works.

By far the most important publication was the poem *In the Beginning* by Bertus Aafjes, a fantasy on the creative poet who pictures himself as Adam, giving names to animals and things and tragical in its efforts to attain an impossible unity of word and object.

The poet, J. C. Bloem, published a book containing his reviews and essays, which till then were to be found only in periodicals. S. Dresden, professor of French literature at Leyden, and H. A. Gomperts also published important collections of essays. Herman Gorter's penetrating sociological and literary studies on the movement of the '80s were collected in a book, 50 years after their original publication in a socialist periodical. (G. SG.)

DUTRA, EURICO GASPAR, Brazilian army officer and statesman (b. Cuiabá, Brazil, May 18, 1885), was elected president of Brazil on Dec. 2, 1945, and took office on Jan. 31, 1946. (For his early career see *Britannica Book of the Year 1949*.)

In May 1949 President Dutra made the first visit to the United States that had been paid by any Brazilian chief of state since that of Emperor Dom Pedro II in 1876. He was greeted by President Harry S. Truman; and on May 21 the White House announced that the two chiefs of state had reached an agreement to work out a programme for economic development and social progress. The negotiation of a cultural treaty between the two nations was also approved.

DYESTUFFS. It became evident in 1949 that European output of dyestuffs was keeping pace with consumption. The demand by the textile, leather and paper industries remained high but there were signs of less easy trading conditions and the directors of one large Swiss dyestuff concern went so far as to state that the postwar boom of those industries had passed its peak, at least in Europe and the United States. Even if this were not so, the principal dyestuff exporting countries of Europe would still have to realize that competing countries had increased their productive capacity after World War II and frequently enjoyed the advantage of lower production costs. Moreover, some countries were beginning to manufacture some of their own.

It was with the possible danger of overproduction of dyestuffs in mind, as well as to see what reductions in dollar expenditure might be possible, that the Chemical Products committee of the Organization for European Economic Co-operation undertook a study of seven major chemical products, one of which was dyestuffs.

Replies to a questionnaire by the committee to the various countries revealed that a considerable increase in production was anticipated:

EUROPEAN PRODUCTION OF DYESTUFFS
in metric tons of commercial product

Country	Production 1947	Production Anticipated programme 1952-53	Exports 1952-53
Benelux	1,900	6,400	4,500
France	16,000	27,000	10,000
Italy	8,900	20,000	8,000
United Kingdom	34,000	52,000	20,000
Switzerland	15,000	20,000	18,500
Germany (Bizone)	4,300	33,000	18,000
French Zone of Germany	4,000	4,300	1,000
TOTAL	84,100	162,700	80,000

A working party, consisting of representatives of the western European countries, was formed to make a critical study of consumption and foreign outlets, but had not yet published its report.

Dyestuff manufacturers reported a widening of interest in fast colours and specialities. There was also an increasing demand for special colours for mixed fibres.

Some light on Russian dye production was thrown by Dr. Herbert Levinstein, during an address at Bradford in 1949. The industry formed an important part of the latest five-year plan and was scheduled to produce by 1950 one-and-a-half times as much as before World War II. The target was 43,000 tons, with special emphasis on fast colours.

In Great Britain, where dyestuffs production was running at some 30% above 1948 output, proposals were made for the nationalization of the chemical industry and James Ewing, chairman of a large dyeing combine, expressed concern at the prospect of disruption of the dye manufacturing industry which, he thought, would inevitably occur. The government stated that the chemical industry would be carefully examined before it was decided to transfer any appropriate sections of the industry to public ownership. (L.E.Ms.)

United States. The volume of dyes sold during the first seven months of 1949 was approximately 15% lower than for the same period in 1948. The tightening of consumer buying forced reductions in the textile, paper, leather and other colour-consuming industries with a resultant decrease in the consumption of dyes. The situation changed materially in August with renewed industrial activity and the demand for dyes continued strong throughout the rest of the year. Export requirements remained fairly stable despite the uncertainty of dollar exchange in many foreign countries. Little change occurred in the weighted average domestic price of dyes. A reduction of 4% was made on a few products but the unit value per pound was comparable to the previous year's figure.

Dyestuff research resulted in the marketing of a number of new products possessing better fastness and improved dyeing properties. The use of fast vat colours was extended to a broader variety of fabrics designed for various ultimate uses, which gave the consumer a high degree of colour durability. New hydrophobic and other types of synthetic fibres presented complex colouration problems but it was generally possible to provide colours and formulas adapted to the chemical characteristics of any given fibre. (A. G. B.)

EAR, NOSE AND THROAT, DISEASES OF.

Hæmorrhage occurs in all surgery of the ear, nose and throat and is often difficult to stop. B. H. Senturia, J. H. Ogura and T. E. Walsh found that thrombin was useful in controlling veno-capillary oozing after removal of tonsils or adenoids. Brisk bleeding from Little's area (front of the central partition of the nose) or from the lateral nasal wall was not controlled. Bovine thrombin, as a sterile white powder, was used in the middle ear following radical mastoidectomy and provided a dry bed for skin grafting. It was also effective in cases of bone and soft tissue oozing, dural and lateral sinus bleeding where epinephrine adrenalin failed and where hot wire cautery was deemed inadvisable. Using absorbable sponge saturated with thrombin good results were obtained, during radical mastoidectomy, in the obliteration of inaccessible parts of the mastoid cavity prior to skin grafting. Thrombin-saturated sponge was found useful to patch lacerations and incisions of the dura (covering of the brain) jugular bulb and lateral sinus. It was used successfully as an innocuous hæmostatic agent as well as a protective cushion over the exposed facial nerve. The sponge was used to protect linear tears in the membranous flap during the fenestration operation (window operation on the inner ear) for a certain type of conduction deafness. Good results were obtained in radical neck dissection where unusual bleeding followed X-ray therapy. Promising results were obtained in the use of a thin sheet of sponge as an " interseptal bridge " in cases of post-operative perforations of the nasal septum. Unsatisfactory results were obtained when the sponge was used to control brisk bleeding from the lateral nasal wall. No methods could be devised for the safe use of absorbable sponge in the oral or nasal passages.

Antibiotics. A. C. Furstenberg concluded that nearly all acute infections of the ear, nose, sinuses and throat respond successfully to the intramuscular administration of penicillin. Penicillin, to be effective, must come into actual contact with the affected organism and maintain a sustained contact. The difficulty of applying this principle to the upper air passages probably accounts for the disappointing results observed from the popular methods of local administration. Penicillin spray is of little value in the treatment of dilatation of the bronchial tubes although direct application through the bronchoscope of concentrated penicillin solutions to the cavities formed in this disease produced encouraging results. A dense capsule surrounding a chronic abscess in the neck, or dead tissue, or a foreign body within the abscess all formed a barrier to antibiotic therapy. Similar difficulties in the use of penicillin were found in chronic pus-forming middle ear inflammation, in mastoiditis and in chronic nasal accessory sinus diseases. No antibiotic known in 1949 could cure these pathological entities when used systemically, locally or by both methods.

The possible injurious effects of penicillin in the absence of infection were pointed out. The normal basic flora of the throat may be altered to include harmful organisms. It could be argued that the prolonged administration of the antibiotic might produce resistant organisms, which would not respond in the future to a sorely needed antibiotic.

Streptomycin was found to be particularly effective in tuberculosis cervical gland inflammation and in tuberculous mucous membrane lesions. Its allied agent dihydrostreptomycin, comparatively free from nerve injury effects, gave promise of replacing the original antibiotic in the treatment of these conditions.

Nasal Surgery and Rhinoplasty. The most significant advances in nasal surgery were brought to the fore by Armand Carron, Samuel Fomon and by Dean M. Lierle and W. C. Hoffman. There were changing concepts in the structural anatomy and surgery of the obstructing septum. As Carron pointed out, a closer liaison had been effected between physiology and nasal surgery. Both upper and lower external nasal cartilages are tremendously important in the ventilation of the lung and help to regulate the minute volume of inspired air. Detailed diagnoses of causes of collapsing alae (lower cartilages and flare of nose) and their surgical correction were clearly presented by Carron. One of the significant trends in otolaryngology in 1949 was the formal incorporation of rhinoplastic surgery in the training of all those interested in diseases of the ear, nose and throat. (*See* also COLD, COMMON.)

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EAST AFRICA, BRITISH: *see* BRITISH EAST AFRICA.

EASTERN ORTHODOX CHURCHES.

The new Occumenical Patriarch, Athinagoras I (*q.v.*) was solemnly enthroned in Istanbul on Jan. 27, 1949, and the year which elapsed saw a continual sharpening of the division within the Orthodox body, between Phanar and Kremlin, Byzantium and Moscow, the Second Rome and the Third. Four days after his enthronement, Athinagoras, who had only lately relinquished his U.S. citizenship, went to Ankara to deliver a personal message from President Harry S. Truman to President Ismet Inonü. As a gesture of satisfaction at his election the Turkish government gave him formal permission to appear publicly in his robes of office. And not only with the Americans and with the Turkish state, but—what on an historical view is more significant—with the papacy and the

Roman Catholic Church, the new Oecumenical Patriarch developed a cordiality that his predecessors had not found it possible to achieve. In his first allocution after his election Athinagoras called on the Orthodox to co-operate with all Christian Churches, including the Roman Catholic Church; in March he called on Mgr. Andrea Cassulo, Apostolic delegate to Turkey, to offer his congratulations on the tenth anniversary of the coronation of Pope Pius XII; and on Greek Independence day it was at his special invitation that Mgr. Cassulo came to hold a Roman Catholic religious service on the premises of the Greek consulate in Istanbul—these were illustrations of the greatly changed atmosphere that the new Oecumenical Patriarch introduced.

The Patriarchate of Moscow, on the other hand, continued to identify itself more and more intimately with the policies of the U.S.S.R., thus lamentably accentuating its separation from most of the rest of the Orthodox world. The Moscow theologian A. Krachenninikov, in the *Journal of the Moscow Patriarchate* in the autumn, went as far as anyone yet had done, when he declared that the Russian Church, in supporting the foreign policy of the Soviet government, had fulfilled "a holy duty of the religion of love" and that the position of the Russian Church had not varied "in the face of the current forces in the world today—those of progress and those of reaction." He went on to make a violent and characteristic attack on the Roman Catholic Church and the World Council of Churches, and to say that there was an "irreconcilable opposition" between the Orthodox east and the rest of Christendom. Patriarch Alexey of Moscow made a typical comment in August, when he replied to a series of questions from Reuter's agency on the papal ex-communication of Communists; Athinagoras on the other hand, had expressed himself in sympathy with that Roman decree.

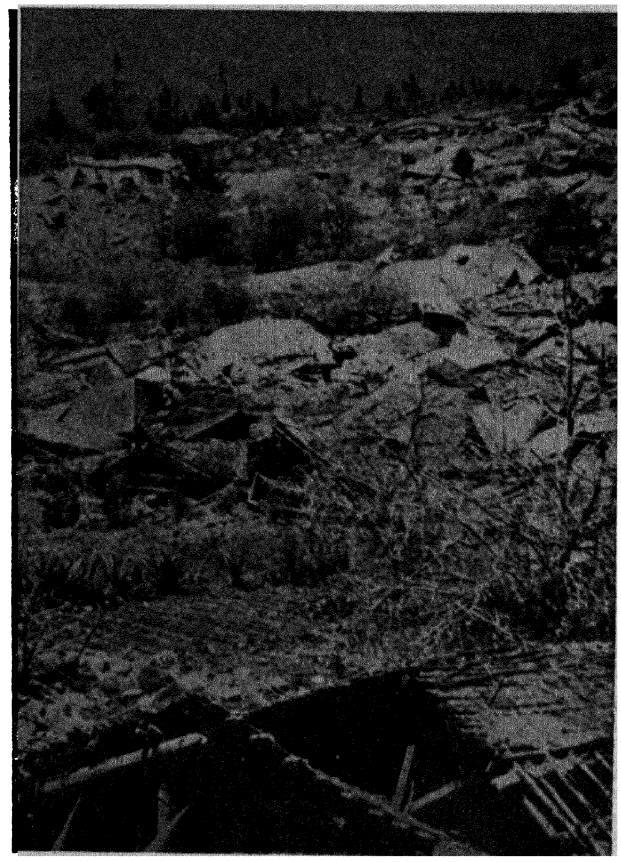
The division among the Orthodox reflected itself in various areas: the Patriarch of Alexandria had the reputation of feeling some sympathy with Moscow; and there were many misgivings among the Orthodox in Palestine when the Israeli parliament decided to acknowledge the claims of the Moscow patriarchate to Russian Orthodox property and institutions in Israel. In Yugoslavia Patriarch Gavrilo found some relief in Marshal Tito's quarrel with the Cominform; and other Balkan prelates, like the Metropolitan Josip of Skoplje and Bishop Varnava of Sarajevo, could even be described as anti-Russian. On the other hand, the Patriarch Justinian of Rumania showed himself more and more the extreme example of a prelate committed to the Communist revolution.

In Greece, Archbishop Damaskinos (*see* OBITUARIES) of Athens, the former regent, died on May 20, and on June 4 the Holy Synod elected as his successor the Metropolitan Spiridon Vlachos of Janina. On Sept. 28 Mgr. Chrysanthos Philippidis, archbishop of Athens from 1938-41, died. During World War I he was Metropolitan of Trapzon (Trebizond), Turkey. Owing to the fact that he associated himself with the Free Pontus movement, he was tried *in absentia* by a Turkish court in 1922 and sentenced to death. (M. DK.)

ECONOMIC CO-OPERATION ADMINISTRATION, U.S. (E.C.A.): *see* EUROPEAN RECOVERY PROGRAMME.

ECUADOR. A republic on the west coast of South America, straddling the equator, bounded on the north and east by Colombia and on the east and south by Peru. Area: 104,510 sq. mi. (including the Galápagos Islands, 3,029 sq. mi.). Pop. (1948 est.): 3,362,000 of which *c.* 60% Indians, 30% *mestizos*, 9% whites, and 1% Negroes. Religion: mainly Roman Catholic. Language: Spanish, but Indians speak Quechua and Jibaro. Chief towns: Quito (cap. pop., 1947 census, 200,185); Guayaquil, the main port (235,000); Cuenca (53,520). President of the republic, Galo Plaza Lasso.

History. Although political opposition began to coalesce in 1949, the Plaza administration remained fundamentally stable. The government pushed forward with sweeping programmes calling for land distribution and resettlement, irrigation, selective credits to farmers and other producers, and servicing of the external debt. The administration was somewhat hampered by the gradual disintegration of the National Civic Democratic movement, the hybrid organization chiefly responsible for President Plaza's election in 1948; and on June 27 the Socialist party proclaimed its "revolutionary opposition" to the government. A subversive plot was broken up on July 4, when Julio Moreno Espinosa of the Liberal-Radical party, Juan Manosalvas of the Federation of University Students and five army majors were imprisoned.



The ruins of the town of Pelileo which was completely obliterated in the severe earthquakes which shook Ecuador in Aug. 1949.

South America's most catastrophic earthquake in ten years struck Ecuador in a series of 15 tremors occurring between Aug. 5 and 7. The centre of destruction lay about 50 mi. south of Quito, and the affected area embraced about 1,500 sq. mi. and a population of approximately 300,000, of whom 100,000 were left homeless. The death roll, at first placed at 4,600, was eventually estimated to be more than 8,000, and the property damage was calculated at more than £30 million. The village of La Libertad (pop., 600) was completely buried in a mile-wide pit more than 1,500 ft. deep. Between 400 and 500 people died at Ambato, where 70% of the houses were reported to be uninhabitable. President Plaza hastened to the stricken area to learn the extent of the disaster, and reported in a radio address on Aug. 7 that in

one town of about 3,500 residents (Pelileo), about 300 survived.

Relief activities, jointly undertaken by the U.S. and other American republics, were organized within a few hours. A "mercy airlift," grouped around about 20 aeroplanes based at the Panama Canal Zone, was in operation by Aug. 7, conveying doctors, nurses and supplies to the stricken area and evacuating refugees and injured persons.

In balloting at Flushing Meadow, New York, on Oct. 20, Ecuador received a non-permanent seat on the United Nations Security council.

On Feb. 12 a realistic radio dramatization of H. G. Wells's *The War of the Worlds* so terrified residents of Quito that a mob attacked and burned the building which housed both the radio station and the offices of *El Comercio*, the capital's leading newspaper. Twenty persons were killed in the rioting, and the property damage was estimated at £125,000. Three officials charged with responsibility for the broadcast were arrested on Feb. 15. (G. I. B.)

Education (1941) Schools: elementary 2,710, pupils 316,749; secondary 36, pupils 8,957; universities 3, students 1,755.

Agriculture. Main crops ('000 metric tons, 1948; 1949 estimates in brackets): rice 113 (91); cocoa 16 (21); cottonseed 5; coffee (1947) 9; sugar, raw value, (1947) 36; castor beans (1947) 5 8. Exports of balsa wood (1947) 1,130 metric tons.

Industry. Crude oil ('000 metric tons, 1948) 338. Cement ('000 metric tons, 1948) 40.

Foreign Trade. (Million sucres) Imports: (1947) 604, (1948) 568; exports. (1947) 618, (1948) 493. Main sources of imports (1948): United States 73%, United Kingdom 6%. Main destinations of exports (1948): United States 35%, Philippines 13%.

Transport and Communications. Roads (1948) 500 mi. suitable for motor traffic. Licensed motor vehicles (Dec. 1948): cars 2.780, commercial vehicles 5,470. Railways (1948). 687 mi.; passenger-mi. (1948) 85 million, freight net ton-mi. (1948) 65 million. Telephones (1948) 10,000.

Finance and Banking. (Million sucres) Budget: (1948 est.) revenue 385, expenditure 385, (1949 est.) revenue 436, expenditure 436. National debt (Dec. 1946): 224 Currency circulation (Sept. 1949; in brackets Sept. 1948): 336 (339) Gold reserve (Sept 1949; in brackets Sept. 1948): U S. $20 6 (20·5) million. Bank deposits (Aug 1949; in brackets Aug. 1948) 368 (305) Monetary unit: *sucre* with an official selling exchange rate (Dec. 1949; Dec. 1948 in brackets) of $37 80 (54 40) to the £.

EDEN, ROBERT ANTHONY, British statesman (b. Windlestone hall, County Durham, June 12, 1897), was educated at Eton and at Christchurch, Oxford, and served in World War I. In 1922 he stood as Conservative candidate at Spennymoor, Durham, and in 1923 was elected M.P. for Warwick and Leamington. He was parliamentary private secretary to Sir Austen Chamberlain, 1926-29; parliamentary under secretary, Foreign Office, 1931-33; lord privy seal, 1934-35; and was then appointed minister for League of Nations affairs. In Dec. 1935 he succeeded Sir Samuel Hoare (later Lord Templewood) as foreign secretary but in Feb. 1938 resigned because of the government's policy of appeasement. He returned to the government in Sept. 1939 as dominions secretary, and after a few months became secretary of state for war. He returned to the Foreign Office on Dec. 23, 1940, and remained in office until the general election in July 1945. He then acted as deputy leader of the opposition under Winston Churchill, handling the day-to-day activities of the Conservative party in the House of Commons. In the early months of 1949, accompanied by Commander Allan Noble, M.P., he undertook a tour of the Commonwealth, visiting Canada, New Zealand, Australia, Malaya, India and Pakistan. He returned *via* Italy where he was received by the Pope and Alcide De Gasperi, the prime minister.

EDUCATION. International. On Dec. 10, 1948, the United Nations general assembly in Paris approved a Declaration of Human Rights which included the following:—

Article 26.—1. Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education shall be compulsory. Technical and professional education shall be made generally available, and higher education shall be equally accessible to all on the basis of merit.

2. Education shall be directed to the full development of the human personality and to the strengthening of respect for human rights and fundamental freedoms. It shall promote understanding, tolerance and friendship among all nations, racial or religious groups and shall further the activities of the United Nations for the maintenance of peace.

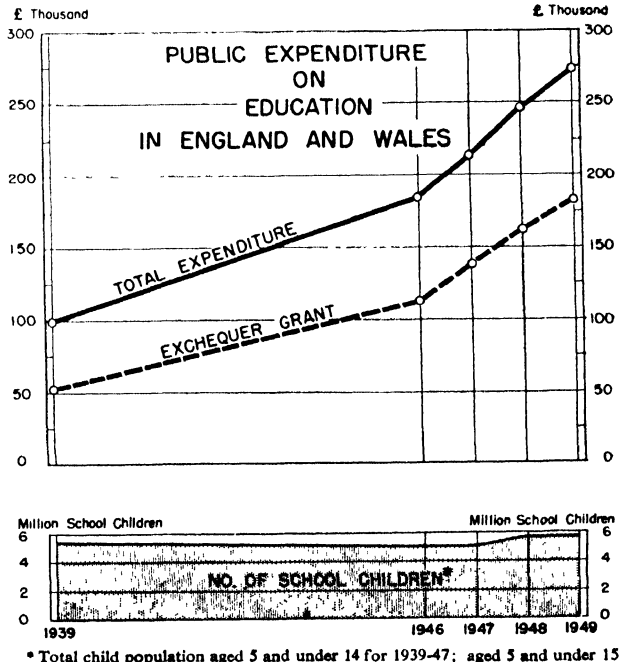
3 Parents have a prior right to choose the kind of education that shall be given to their children.

In 1949 U.N.E.S.C.O. published a volume entitled *Human Rights* resulting from a world-wide inquiry it had made. It contained the questionnaire it had issued, a selection from the replies and a report by the committee that edited the contributions.

The year 1949 saw steady growth in making and developing international contacts of most various kinds at all levels. In stimulating this growth U.N.E.S.C.O. played a considerable part.

The fourth session of the general conference of U.N.E.S.C.O., held at Paris from Sept. 19 to Oct. 5 and attended by delegates from 50 countries, was intended to be a short business meeting devoted to amending in detail the two-year programme agreed at Beirut in 1948 and approving the budget for 1950. Actually, keen debate ensued on three matters of crucial importance: the size of the budget, the range and nature of projects and the extension of U.N.E.S.C.O.'s activities in Germany. On all these antagonistic blocs of opinion revealed themselves.

A compromise fixed the 1950 budget at $8,000,000 of which $1,055,815 went to the education programme. Two international seminars prepared in 1949 on geography teaching and the improvement of text-books were fixed for 1950. A third, on illiteracy, was deferred until 1951. A majority vote carried the proposal to establish a training centre for teachers of fundamental education. The decision was taken "to study in 1950 jointly with the International Bureau of Education the problems involved in making free compulsory primary education more nearly universal and of longer duration." It was agreed to assist the interim



* Total child population aged 5 and under 14 for 1939-47; aged 5 and under 15 or 1948-49.



George Tomlinson, minister of education, (right) with Dr. Jaime Torres Bodet, director general of U.N.E.S.C.O., outside Church house, Westminster, April 11, 1949.

committee of the International Universities bureau to convene a full conference in 1950. In accordance with a recommendation of U.N.E.S.C.O.'s International Conference on Adult Education held in June an International Advisory Council on Adult Education was set up. Greek children who were victims of the civil war, Arab refugee children of Palestine and Ecuadorian child victims of the August earthquake were taken under U.N.E.S.C.O.'s wing and, despite a " walk-out " by the Czech, Hungarian and Polish delegations, it was decided to extend U.N.E.S.C.O.'s work to Germany. The conference discussed U.N.E.S.C.O.'s part in the scheme of technical assistance for economic development to under-developed countries proposed by the Economic and Social council of U.N. and agreed a programme.

During 1949 U.N.E.S.C.O. despatched its first three educational advisory missions to member states—Afghanistan, the Philippines and Siam. (For its international conference in Denmark and seminar in India on adult education *see* ADULT EDUCATION.)

Dr. C. E. Beeby, head of the Education department, resigned on completion of the period for which he was seconded to U.N.E.S.C.O. by the New Zealand government —a great loss to the organization.

In the autumn of 1948 the United Nations assembly voted $32 million in aid of Arab refugees from Palestine, and devised a scheme of assistance along with international voluntary bodies already in the field. Early in 1949, as soon as minimum daily rations had been assured in the refugee camps, the organization of schools for the children began. By mid-1949 U.N.E.S.C.O. was sponsoring 31 schools with over 11,000 pupils, the funds coming from the U.N.E.S.C.O. Reconstruction Emergency fund, the Lord Mayor of London's Appeal for Children, and the Norwegian United Nations Appeal for Children committee. The schools programme was planned to end on Aug. 31 but, as it became clear that the need would continue, the U.N.E.S.C.O. executive board in June appealed successfully for sufficient funds to maintain the schools till the end of 1949. The schools gave basic education only, and preference was given to children aged 10-12 years. All the teachers were refugees.

In October U.N.E.S.C.O. organized an international conference at Charleroi, Belgium, on the rehabilitation and education of vagabond children in Europe. Recommendations were framed for submission to U.N. The conference was immediately followed by one organized by the International Federation of Children's Communities. Proposals for research projects and a plan for an international research centre for deprived and handicapped children were drawn up.

In January the foreign ministers of the Brussels treaty powers (Belgium, France, Great Britain, the Netherlands, Luxembourg) announced proposals for closer association in educational and cultural matters: exchange visits by school inspectors; teachers' courses about Western Union, each country in turn being host; national exhibitions of educational material for circulation in the other countries; national lists of travel and lodging facilities for school children and students; lists of forthcoming important educational, cultural and social congresses in all five countries.

In April and May school inspectors from the other four countries spent a month in Great Britain and in May-June, in view of the probability that Germany would later be invited to join the Western Union, British inspectors spent a month there. The first teachers' course was held in England in August.

In Sept.-Oct. the European movement organized at Bruges, Belgium, an experimental three weeks' session of a "College of Europe " designed to give selected graduate students a wider European education. (*See* UNIVERSITIES AND COLLEGES.)

International conferences, courses, summer schools and other educational exchanges were numerous. In August the Fédération Internationale Syndicale de l'Enseignement (F.I.S.E.), founded in 1946 as the teachers' branch of the World Federation of Trade Unions, held at Warsaw its first full conference. It claimed to be the largest international organization of teachers, with 3 million members. The first international congress of biochemistry, held at Cambridge, England, in August, drew delegates from 42 countries. In Aug.-Sept. a conference at New York on educational problems of cultural groups organized jointly by Teachers' college, Columbia university, and London university Institute of Education, included coloured delegates. In July the Royal India and Pakistan society held at Oxford, England, a summer school to discuss the development of cultural links between east and west. The summer schools promoted by British universities attracted hundreds of Americans and students from over 20 other countries. In April, history teachers from western Europe and the United States met in Germany to discuss the political, social and educational problems of history teaching. In August educators from 20 countries gathered in Spain to discuss educational problems ranging from teacher training to the teaching of philosophy and theology.

One-year teacher exchanges increased in number between the United Kingdom and the United States; France and the United States; the United Kingdom and the Commonwealth; and the United Kingdom and European countries. Two small new schemes were started between England and Europe: for modern language teachers (England, France, Austria) and for highly qualified teachers who were not modern language specialists (England, Denmark, Netherlands, Norway, Sweden). In August began the first great series of exchanges under the United States Fulbright act (*see* UNIVERSITIES AND COLLEGES).

Typical of student and school child exchanges were mutual visits of university drama societies between London and

Paris; visits by English secondary school drama societies to present Shakespearian plays in Denmark and Norway; a tour of France, Great Britain and Switzerland by South African schoolboys; and the exchange for a whole term of entire school classes between Liverpool, and Poitiers, France. All were said to be the first of their kind.

Great Britain. In June the minister of education for England and Wales publicly expressed his belief that "in the perspective of educational history 1949 will be regarded as the end of one period (*i.e.*, the transition from war to peace conditions) and the beginning of another." High standards had been restored in the schools, sufficient teachers were being trained, school building was rapidly increasing and the Further Education and Training scheme had fed industry, commerce and the professions with 75,000 well qualified young men and women.

In November, as part of the national economy drive, he announced cuts in capital and current expenditure on education. These were surprisingly slight, and for the most part to be effected by more economical planning, administration and construction. While 10% economy in school building had to be effected in 1950, and 20% thereafter, the government guaranteed that no fewer new school places would be provided than originally planned and that the teacher training programme would not be impaired.

In July the Burnham committee, negotiating body for teachers' salaries in England and Wales, agreed to discuss a proposed increase of £150 a year to the basic salary for primary and secondary school teachers. Because of the government's appeal for a general halt of increased pay demands, the local authorities' panel in October broke off discussions

Two inquiries by teachers' associations increased the grave fears already felt in grammar secondary schools about the acute shortage of well qualified teachers of science and mathematics.

In February the Central Advisory Council for Education (Wales) issued its first full report, *The Future of Secondary Education in Wales* (H.M.S.O.). This proposed two types of organization: single multilateral schools covering a wide range of ability, and a dual system of grammar-technical schools for more intelligent pupils and modern-technical schools for the less intelligent.

In January the Scottish Education department announced that after 1949 the Senior Leaving certificate (taken normally at the end of a five-year secondary school course) would be awarded on a subject and no longer on a group basis. From 1950 candidates would be required to follow a course of study approved by the department but the school would decide how many subjects each took.

In October new regulations for entrance to the teaching profession ended the system whereby intending women teachers could do the first of three years' training in a secondary school. For entrance as a non-graduate any candidate must in future have a Leaving certificate showing five passes, including English and one other subject at the higher grade.

In June died Sir Frederick Ogilvie, principal of Jesus college, Oxford, a former director general of the B.B.C., and Professor H. R. Hamley, London university, internationally known as a psychologist.

Australia. The large scale immigration by which 250,000 people were expected to arrive in Australia from the United Kingdom and Europe between Jan. 1949 and June 1950 faced the education authorities with many problems including that of teaching English to foreigners. Schools were established for children and adults at all the numerous immigrant reception centres and ingenious methods devised for English teaching to foreign immigrants, especially Russians and Balts, whose languages were virtually unknown in Australia. Normally, immigrants received a month's intensive training at the reception centre, accurate English speech being the primary objective. Visual aids and the memorising of songs were largely used. Correspondence courses were arranged for settlers in isolated districts

At the beginning of 1949 Queensland, like New South Wales in 1948, adopted a policy of decentralization of educational administration. Five regions were set up, including one administered from the capital, Brisbane. The largest had about 230 schools, the smallest 33. In the latter the chief education officer also acted as inspector of schools.

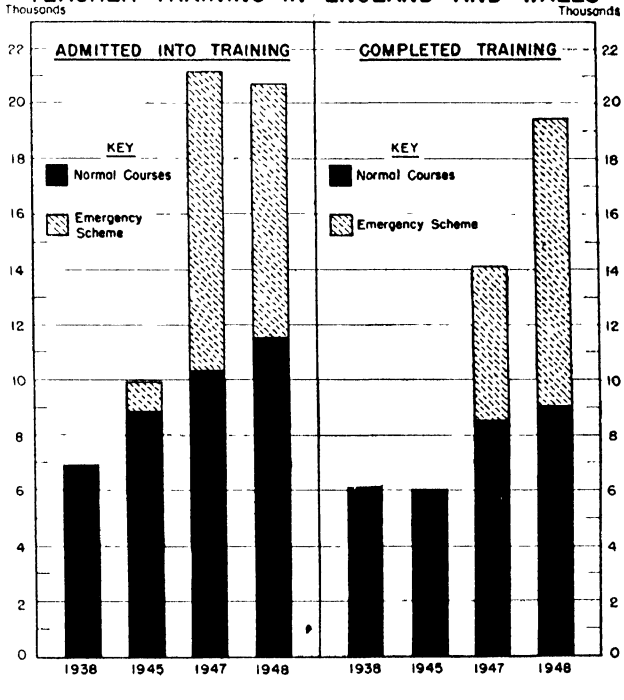
Canada. In February the Canadian Education association reported that the schools were short of 7,039 qualified teachers as compared with 7,276 in 1948. In the rural areas 6,440 schools were in charge of unqualified teachers or closed. Teacher training colleges, however, showed largely increased enrolments, especially in Quebec; altogether there were 10,761 teachers in training as against 7,833 in 1948.

The School Health Research committee published *Absenteeism in Canadian Schools* (Toronto, 1948), a study by Dr. A. J Phillips of the absences over one year of 15,000 children in representative schools. It showed relationships between extent of absence and economic status, father's occupation size of family, racial groups and school progress.

South Africa. In March the government appointed a commission "to formulate the principles and purposes of education for natives as an independent race . . . . examine means by which all educational processes for natives . . . need to be changed . . . . to fit in with the aforementioned basic principles . . . suggest methods of organization and administration for . . . . native education, and recommend the basis on which the system should be financed."

Czechoslovakia. In September lay teachers of religion, now civil servants appointed and paid by the state, issued a statement of agreed policy which insisted that religious teaching remained within the competence of the church and that all instructions about programmes of studies and the manner and spirit of the teaching must come from the church authorities. They regarded the school inspectors' role as confined to supervision of discipline. Any lay teacher

TEACHER TRAINING IN ENGLAND AND WALES



accepting an appointment without Church approval would be liable to punishment by the Church, and Roman Catholic parents were advised to withdraw their children's names from the register for religious teaching where teachers not approved by the Church were appointed.

In November the government announced the formation of 19 regional commissions to control religious education, supervise the political and professional education of priests and administer the property of religious organizations.

France. Once again public opinion was troubled on learning of the high proportion of failures in the *baccalauréat* examination—61% in 1949. There was nothing new in this—the trouble had been endemic for over 40 years—but comment revealed a growing feeling that this examination, originally intended for purposes of university entry only, was being increasingly regarded, in the words of one critic as " a snobbish social rite of admittance to the palace of culture." The trouble was regarded as the more serious because of the narrow, intensive nature of the *baccalauréat* course. To counteract this for would-be university students the *année propédeutique* (*see* UNIVERSITIES AND COLLEGES) was imposed in 1948, but this did not benefit the large number of candidates not intending to go to a university.

Germany. With the transfer of powers to the German Federal republic control of public education in the western zones passed to the German government. In February General B. Robertson, high commissioner-elect for the British zone, announced the formation of a British Relations board whose function would be to offer advice and assistance on educational and cultural matters in the British zone. This board, directed by the high commissioner with his political adviser as chairman, replaced the Education branch of the Control Commission for Germany (British element).

In July Robert Birley, (*q.v.*) educational adviser to the British high commissioner, resigned on becoming headmaster of Eton college. He was succeeded by Professor T. H. Marshall, head of the Social Science department, London School of Economics.

In October Dr. Alonzo G. Grace, head of the Education and Cultural Relations branch, United States zone, resigned on becoming professor of education at the University of Chicago.

To meet the grave shortage of teachers in the eastern zone, 36,000 men and women had, by the beginning of 1949 been given emergency courses and sent into the schools. Of these, 28,000 had received a one-year course and the other 8,000 only a few weeks. The latter worked in the schools under the direction of trained teachers.

Politics was introduced for the first time as a regular subject into the curriculum of *Land* Hesse.

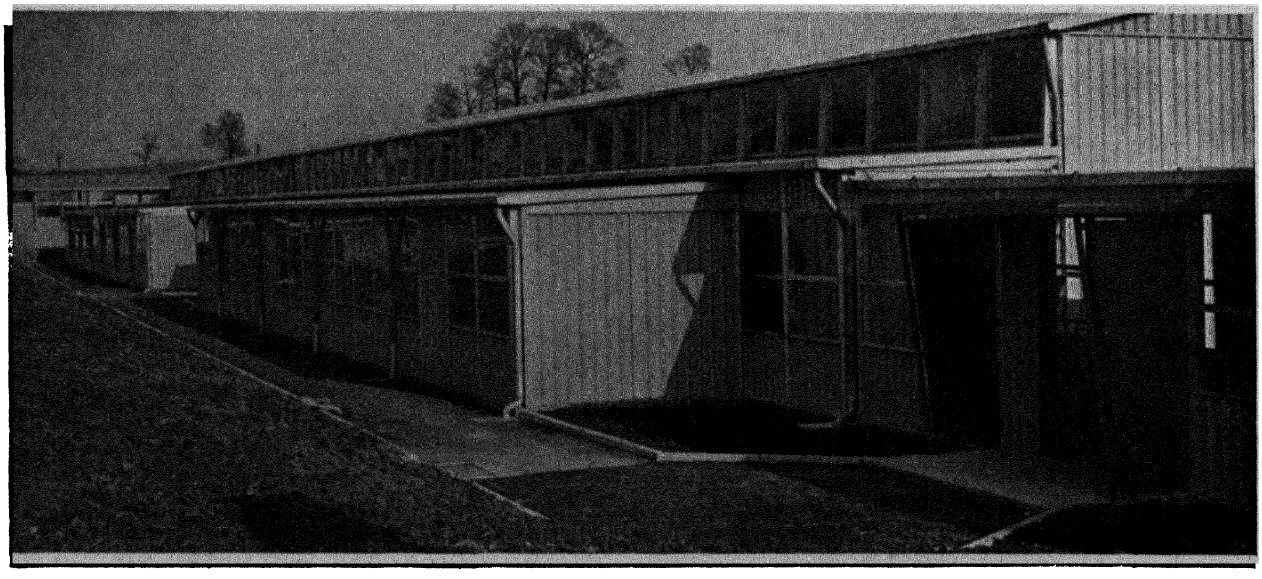
By Jan. 1949 there were in South Schleswig 64 Danish schools with 15,692 pupils—greater numbers than ever before. This had resulted from resumption after the war, first by the British military government and later by the Schleswig-Holstein government, of the policy of permitting Danish parents to decide whether their children should attend a Danish or a German school. Most of the 64 were private schools, and in April the Schleswig-Holstein government gave the few Danish council schools the status of private school.

In the spring a series of seven Anglo-German teachers' conferences, sponsored by the British Foreign Office and organized in the British zone and Berlin by the German education authorities, enabled 35 secondary school teachers from England and Wales to discuss with over 200 German teachers and educational administrators problems ranging from fundamental aims to history teaching.

In April the Education and Cultural Relations division of the United States military government organized at Chiemsee, Bavaria, an international conference on comparative education at which some 75 Germans discussed with 75 Americans and representatives of 13 European nations the social, economic and spiritual background to education.

Greece. In March the Vocational School for Youths was founded, which was designed to train as normal citizens adolescent boys who had served with rebel forces or been in suspicious contact with them. Suggested by King Paul, it was situated on the island of Leros and, apart from government help with materials and equipment under its reconstruction programme, was supported by voluntary contributions. It was sponsored by the National foundation, created in 1947 to establish technical and vocational schools.

By November the school housed 1,200 boys, mostly between the ages of 14 and 20. Illiterates were being given elementary education and secondary education was provided for older boys. There was a choice of 22 trades and pupils had complete freedom to decide which they would learn except that illiterates were debarred from technical trades. The normal period of training was 12 months. Though the primary aim



The back elevation of a block of prefabricated aluminium classrooms at the Lockleaze primary school, Bristol. The school was opened by the minister of education, George Tomlinson, on March 9, 1949.

of the school was to wean youths from Communism no political instruction was given, reliance being placed on good treatment and trade training.

Greenland. The Junior Red Cross movement was introduced into all schools. In addition to the teaching of health one of its first tasks was to establish correspondence with schools in other countries.

Hungary. In September the government abolished the compulsory teaching of religion in schools and with it the traditional ceremony of singing a *Te Deum* at the opening of the school term. Parents could apply to have religious teaching for their children and this would be paid for by the state. Since the nationalization of schools in 1948 religious teaching had been compulsory for two hours a week.

Ireland. In January the government of the republic of Ireland appointed a Committee on National Teachers' Salaries. This produced in October a majority and a minority report. The main recommendations in the majority report, accepted by the government, were a common salary scale for women and single men beginning at £250 and rising to £525 a year and a married man's scale from £300 to £650, additional allowances for honours graduate qualifications and pensions on the same basis as civil servants. The changes were to come into effect on April 1, 1950. The minority report recommended that any new salary scales should approach those obtaining in Great Britain and Northern Ireland. The Irish National Teachers' organization characterized the new scales as "deplorable."

Luxembourg. In October an educational conference, believed to be unprecedented in that it was both international and a co-operative effort by primary and secondary school teachers, discussed means of easing racial, linguistic, religious and social tensions within a country.

It was announced that an institute of university status was to be founded by private enterprise in Luxembourg to study means of bringing about understanding between nations.

Poland. At the opening of the school year 1949–50 the Ministry of Education claimed that elementary education (7–14 years) had at last been made everywhere compulsory. It was supposed to be compulsory before World War II but in fact 500,000 children then received no schooling.

To make universal compulsion possible, 4,500 basic schools had been built between 1945 and 1949 and 5,000 teachers added to the establishment although there were 1,500,000 fewer children. In addition 6,000 nursery schools had been set up in which there were in 1949 264,000 children between the ages of three and six years. It was aimed to treble this number by 1952. In 1949 2,500 nursery school teachers were being trained.

The basic school covered the first seven years of the 11-year course which the authorities aimed to provide for every child. There were two kinds of secondary school, academic, or "general knowledge," and technical, both entered at the age of 14. In 1949 10·3 pupils in every 1,000 of the population entered the academic schools and 36 the technical—as against 6·4 and 6 respectively in 1939.

Higher education was being rapidly expanded and the campaign against adult illiteracy vigorously prosecuted; in July a census was taken with a view to organizing in 1949-50 compulsory courses for all illiterates under the age of 55.

Structural reorganization was being accompanied by the building of new curricula to match the new social order. History was being given a materialist interpretation, biology based on Michurin principles. Religious education, given by priests or laymen approved by the Church, was compulsory for two hours a week in all basic and academic schools and for one hour in technical schools with the reservation that parents could withdraw children from it. In 1949 the educational budget was 25 times as great as in 1945.

Sweden. In February the government decided to postpone parliamentary discussion of the report on the public school system issued by the 1946 School committee which advocated far reaching reforms because of the volume of criticism and alternative proposals received.

Turkey. Proposals were made by the fourth annual conference of Turkish teachers and accepted by the minister of education which should in time have the effect of lessening the specialization in middle schools and *lycées* and of raising educational opportunity in the smaller towns and rural areas nearer to that in the large cities. The proposals included extension of the *lycée* course from three to four years, the training of specialist teachers for languages only (and not, as previously, for music, art, handwork and physical education as well) and the transfer of non-specialist teachers from Istanbul and Ankara to the provinces. The universities altered their certificate system to allow teachers in training to take two or three subsidiary subjects as well as their specialized subject.

U.S.S.R. In the spring Professor Ivan Kairov, head of the Academy of Educational Science, Moscow, became minister of education for the R.S.F.S.R. Outlining his policy in the autumn he said that the paramount task for the year 1949–50 was to raise the standard of attainment. Formal teaching was to be reduced to a minimum in language, literature and mathematics, and the greatest use made in all lessons of individual work and activity. In biology the change over to Michurin principles was to be completed. History teaching must "treat more deeply of Soviet history and show the leading role of the Communist party and its great leaders Lenin and Stalin." Attention to the "politico-philosophic content of education" leading to "a Communist outlook" was to be "implicit in all teaching and training." (H. C. D.)

United States. Educational activity in the United States during 1949 was marked by an energetic campaign to secure a federal law which would bring the level of education in the poorer states up to that of the more fortunate ones. There was a rise of religious tempers, especially between Roman Catholics and Protestants, over the issue of federal aid to education. Public interest in the improvement of material and pedagogical conditions increased, particularly in the south and west. The shortage of suitable buildings and of qualified teachers in the elementary schools continued. Efforts were intensified to reduce discrimination against minorities and to grant the Negroes equal educational rights all over the country. Discussion increased concerning the place of communists and communism in the schools; there was an increase in enrolments at all scholastic levels, but a decrease in the number of ex-service college students. The number of foreign students attending U.S. colleges and universities increased steadily and there was continued interest in international educational co-operation and in the work of U.N.E.S.C.O.

According to the United States office of education, the school year 1949-50 would be marked by the following attendance figures: elementary schools, 23,377,500; high schools, 6,533,000; institutions of higher education, 2,400,000; private commercial and nursing schools, 361,000; grand total 32,671,500. The actual number of persons at educational institutions of all kinds during 1948 was 31,880,000. With the birth rate still climbing, educational leaders predicted a rise in enrolment in elementary and high schools for several more years.

Legislation enacted by the U.S. congress during 1949 included a grant of $7·5 million to local school agencies for educational services to children on federal reservations or in defence areas; a fund for the construction of public schools and colleges in time of depression; the continuation of gifts of surplus property to schools; the restriction of federal

funds to ex-servicemen's courses which were not of an avocational or recreational nature, and the withholding of scholarships under the Atomic Energy commission programme from persons who advocated the violent overthrow of the U.S. government; and money for the instruction of Finnish and Chinese students in U.S. colleges and universities. An attempt to raise the Federal Security agency to cabinet status was defeated. Some educators felt that the U.S. Office of Education, under this plan, would fall under political control.

As in previous years, the shortage of teachers continued to be a vexing problem. This was particularly true with respect to elementary schools. Dr. Ray C. Maul's study for the National Education association revealed that there were 260,000 elementary school teachers who lacked proper qualifications for their duties; that only 28,000 qualified teachers were being made available by the teachers colleges for elementary school service in Sept. 1949, whereas there existed a need for 150,000 elementary teachers; and that there were 65,000 college graduates prepared to teach in the high schools, with only 30,000 positions available. Enrolment in the teachers colleges showed an increase in 1949, according to the annual surveys of the Office of Education and of President Raymond Walters of the University of Cincinnati. The latter reported an overall total of 153,099 full time and part time students in 104 accredited teachers colleges, a rise of 14% over the enrolment in 1948. The annual report by the National Education association, released toward the end of 1949, contained important data about the teacher problem. This document stated that 36,000 more teachers were needed for the nation's schools, at least 28,800 of whom were urgently required for the elementary classes. In addition, the report pointed out that the increase of 20,000 teachers was insufficient to meet the demand; that, on account of the deplorable school conditions, a total of 250,000 children were attending half sessions in many school systems; and that at least four million more pupils were receiving poor educational service.

There was evidence in 1949 that a concerted effort was being made to obtain equal rights in education for all citizens. Special attention was given to the problem of improving the Negro's educational status in the south. There was little doubt that the Negro schools had a long way to go to catch up with those of the rest of the population. The southern regional council revealed in January that a sum of $545 million was necessary to improve Negro school buildings to the level of the " white " schools.

The most important incident involving Roman Catholics grew out of the denunciation in June by Cardinal Spellman of the Barden bill. This bill, which was held up in the house of representatives, would allot $300 million annually to the states, but would restrict the grants to public, tax-supported schools and ban the extension of auxiliary school services to the non-public schools. After criticism of the principle of federal aid to sectarian schools had been expressed by Mrs. Franklin D. Roosevelt in her newspaper column, the cardinal published a letter sent to Mrs. Roosevelt in which he disagreed sharply with her point of view. His use of uncomplimentary terms towards Mrs. Roosevelt led to a lively exchange of opinion in the press by supporters—leading clergymen, educationalists, legislators and citizens of all faiths—of the two disputants. In spite of the later reconciliation of the overt differences between the cardinal and Mrs. Roosevelt, it was evident to objective observers that both federal aid to education and relations between the faiths suffered damage during this debate.

According to a census by the Institute of International Education in April, there was a total of 26,759 foreign students, representing 151 nations and 152 religions, in 1,115 colleges and technical schools in the United States. The Department of the Army brought 193 students from occupied countries, 115 of whom came from Germany, in accordance with its democratic re-education programme. A public law passed by congress in August provided that Finland's future payment on its debt incurred during World War I should be applied for educational and technical instruction in the United States for citizens of Finland and for similar purposes. A public law passed in October set aside $4 million for the tuition and expenses of Chinese students stranded in the U.S. because of the civil war in China. Changes were made in the administration of the programme of graduate scholarships under the Fulbright act. Henceforth American applicants were to be chosen by a decentralized procedure, the initial screening to be performed by the individual colleges. In all, 614 U.S. graduate students obtained grants to study in foreign countries under the Fulbright programme during 1949-50. Of those receiving grants, 267 students went to France, 140 to Italy, 122 to Great Britain and the remainder to seven other countries. Luxembourg and Persia were also named as eligible to receive Fulbright scholars during 1950-51. (*See* ADULT EDUCATION; CAMBRIDGE UNIVERSITY; LIBRARIES; LONDON UNIVERSITY; OXFORD UNIVERSITY; TEACHERS, TRAINING; TECHNICAL EDUCATION; UNIVERSITIES AND COLLEGES.)

(W. W. BN.)

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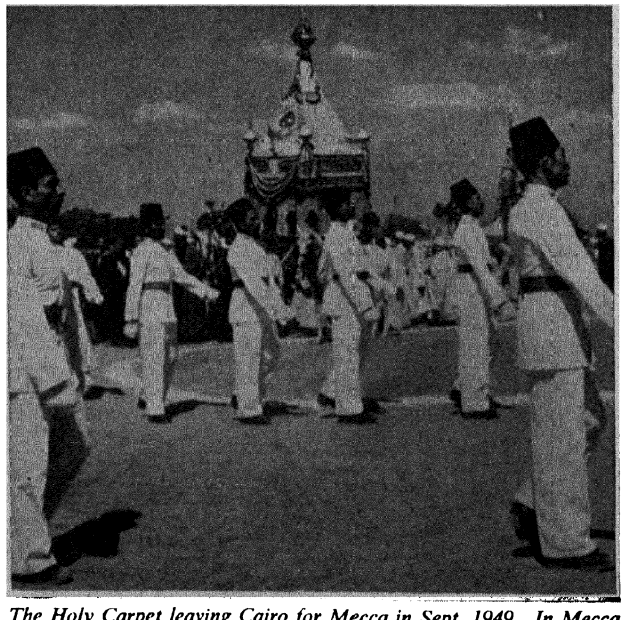
EGYPT. An independent kingdom of northeast Africa, bounded N. by the Mediterranean, S. by the Anglo-Egyptian Sudan, E. by Israel and the Red sea, W. by Cyrenaica and the Sahara. Area: 386,110 sq. mi., but the cultivated and settled area (the Nile valley, delta and oases) covers only 13,496 sq. mi. Pop.: (March 26–27, 1947, census) 19,087,304; (mid-1948 est.) 19,528,000. Language: mainly Arabic (97%), but there are minorities speaking Greek, Italian, Armenian, French, Turkish etc. Religions: Moslem (mainly Sunnites) 91·4%; Christian (mainly Copts) 8·19%; Jewish 0·4%; among the non-Coptic Christians there were (1937 census):



The Holy Carpet leaving Cairo for Mecca in Sept. 1949. In Mecca the carpet is placed in the Ka'ba.

Roman Catholics (all rites) 126,500, Greek Orthodox 105,000, Protestants 78,200, Gregorian Armenians 17,200, etc. Chief towns (pop., 1947 census): Cairo (*q.v.*) (cap., 2,100,506); Alexandria (925,081); Port Said (178,432); Tanta (139,965); Mahalla el Kubra (115,509); Suez (108,250); Mansura (102,709). Ruler: King Farouk I (*q.v.*); prime ministers in 1949, Ibrahim Abdulhadi Pasha and (from July 25) Hussein Sirry Pasha (*q.v.*), who was also minister of foreign affairs.

History. The year began ominously under the shadow of the assassination on Dec. 28, 1948, of Mahmud Fahmy el Nokrashy Pasha, the prime minister. The murderer claimed to be a member of the increasingly fanatical Moslem Brotherhood, whose leader, Sheikh Hassan el Banna, was himself assassinated on Feb. 13, 1949.

The king appointed Ibrahim Abdulhadi Pasha, an experienced politician who was then holding the office of minister of finance, to be prime minister. The new premier, an independent in politics, added several Independents to the existing cabinet of Liberals and Saadists. On Feb. 27 Ahmed Mohamed Khashaba Pasha became minister of foreign affairs.

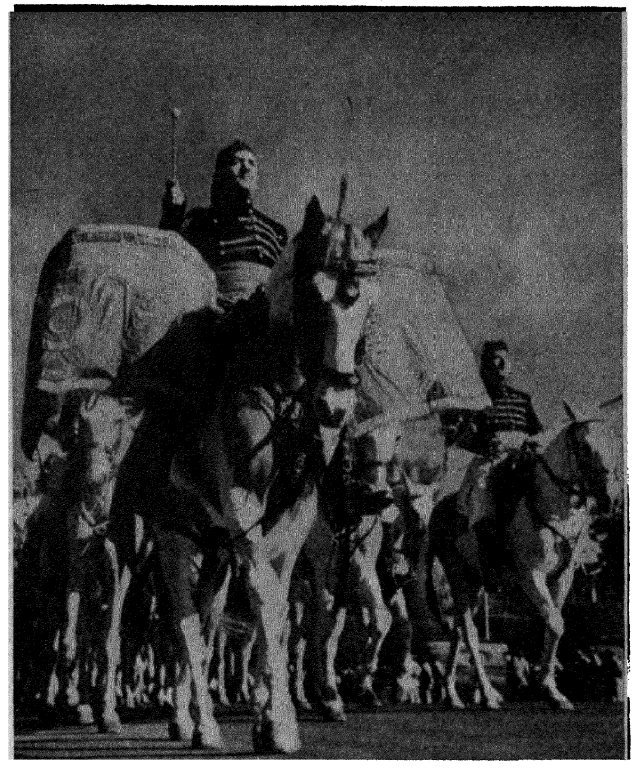
The government's first task was to restore the situation which had arisen from Egypt's participation in the unsuccessful intervention of the Arab league in the affairs of Palestine. Already the state of Israel was recognized *de facto* by the most powerful states in the world—although not by any important oriental power. On Feb. 3, Egypt, following a Pakistani example, denounced these recognitions which, it was claimed, implied the acceptance of the rule of force.

At the beginning of the year, Egyptian military and naval forces were still in contact with the Israelis and, on Jan. 5, the latter achieved several penetrations into Egyptian territory, drawing an expression of concern from the British Foreign Office. However, the acting mediator, Dr. R. J. Bunche (*q.v.*) announced a cease fire as from Jan. 7, which was followed by armistice negotiations under his chairmanship. These were successfully concluded by an agreement signed on Feb. 24. This provided for the evacuation of Faluja, by Egyptian, and of Bir Asluj, by Israeli forces, with a demarcation line between the two rival armies in the Negev, which, running some 20 mi. south of Tel Aviv, left Gaza in Egyptian and Beersheba in Israeli hands. Provision was also made for the limitation of the armed forces to be maintained by either party in the area.

In April, Colonel Husni ez-Zaim (*see* OBITUARIES) flew to Cairo for talks with King Farouk, which were followed, on his part, by the declaration, satisfactory to Egyptian leaders, that he was opposed to any plan for a Greater Syria, and, on the part of the Egyptian government, by the recognition of his regime on April 23.

There was less interest in, and less public recrimination about, the relations between Egypt and the United Kingdom than there had been for several years, although echoes of old and still unresolved disputes were to be heard pretty generally in the clamour of Egyptian internal politics. The United Kingdom expressed concern at the invasion of Egyptian territory by Israeli forces early in the year. On May 30 it protested to the Egyptian government against the excessive delays to which United Kingdom shipping was being subjected in the Suez canal, as a result of Egyptian contraband control measures. In this it was followed in November by both Italy and the U.S.S.R. Meanwhile the British under secretary of state announced "partial satisfaction" to the House of Commons.

A very important event of the year was the conclusion, on March 7, after long negotiations, of a new agreement between the Egyptian government and the Suez Canal company (*q.v.*). By this, Egypt was to receive a much increased share in the profits of the company and to acquire, by 1964, five additional seats on the board of directors, bringing her total representation up to seven. There was to be a big increase in the numbers of Egyptians employed by the company and large constructional works were to be undertaken which would eventually allow the passage of 60, instead of the present 35, ships a day through the canal. The free passage of ships under 300 tons would chiefly benefit Egyptian coastal shipping. This agreement was to hold good until the expiry of the existing concession, in Nov. 1968, which, it was stated, the Egyptian government did not propose to renew. On March 31 an agreement, covering sterling balances and dollar releases for the year, was arrived at.



A cavalry band in the uniform of the time of Mohammed Ali Pasha during a parade in Cairo, Nov. 1949, to commemorate the 100th anniversary of his death.

Of greater importance for the future, perhaps, was an agreement announced by the British foreign secretary in May, whereby Egypt was to participate (sharing on the basis of £4·5 million and £7·5 million respectively with Uganda) in the cost of a project to raise the level of Lake Victoria, at the head waters of the White Nile, thereby providing power for the industrialization of Uganda and a greatly increased flow of water to Egypt. An announcement on July 6 made it known that the government had decided upon the erection of a factory in Egypt for the manufacture of fighter aircraft. A credit of £E 400,000 for this purpose was agreed to without opposition.

In June Egyptians celebrated the closing, in accordance with the terms of the Montreux convention, of the mixed courts, the last vestige of the Ottoman regime of "capitulations" which had long been regarded as a privilege allowing Europeans to evade effective subjection to Egyptian justice. Similarly the foreign consular courts closed down on Oct. 14.

Meanwhile, political life was dominated by internal struggles and the prospect of an election, which must be held when parliament should have served its full term of five years, early in 1950. On July 26 the government of Ibrahim Abdulhadi Pasha resigned, chiefly, it was understood, owing to a dispute between the Saadist and Liberal parties as to the

distribution of seats at the forthcoming election. Because of the refusal of the Wafd to participate in the 1945 election, these two parties held by far the greater number of seats in the house; but the Wafd announced its intention of taking a full part in the new election. On July 26 King Farouk appointed Hussein Sirry Pasha to form an all-party "caretaker" coalition government. It was then announced that elections would take place in October and that they would be held under full constitutional guarantees. Circumstances, however, necessitated a change in this plan.

On Nov. 3, unable to obtain agreement of the political parties to the draft scheme for the redistribution of constituencies, Sirry Pasha resigned. Entrusted at once by the king with the formation of a new government, he accomplished this task on the same day. His new cabinet was composed of non-party men whose tasks were clearly those of routine administration, the delimitation of constituencies and the conduct of elections to be held in Jan. 1950. (H. S. D.)

Education. (1945-46) Schools: primary 425, pupils 82,161; elementary 4,035, pupils 730,039; secondary 141, pupils 62,445; technical 47, pupils 12,464. Universities (1948-49) 5, students 12,540 (excluding Farouk university, Alexandria, and el-Azhar university, Cairo), professors and lecturers 719 (excluding el-Azhar university); other institutions of higher education 8. Illiteracy (1937): 85·2% (excluding nomadic population).

Agriculture. Main crops (in '000 metric tons, 1948) cotton, ginned, 386; maize 1,409; wheat 1,080; rice 1,308; onions 195; sugar, raw, 200. Livestock (in '000 head): sheep (July 1947) 1,868; goats (July 1947) 1,474; cattle (July 1947) 1,318; buffaloes (July 1947) 1,239; asses (July 1947) 1,125; camels (Jan. 1945) 162; horses (July 1947) 25; chickens (July 1947) 16,294. Fisheries, approximate annual catch 53,000 metric tons; value £E2 million.

Industry. (1945) Industrial establishments 129,231, persons employed 458,000. Crude oil (in '000 metric tons, 1948): 1,887. Raw materials ('000 metric tons, 1948): phosphate rock 377, manganese ore 60. Manufactured goods: cotton yarn (metric tons, 1948) 32,970; cotton piece-goods (million sq. m., 1948) 154·8; cement ('000 metric tons, 1948) 768.

Foreign Trade. Imports: (1948) £E160·3 million; (1949, six months) £E88·1 million. Exports: (1948) £E143 1 million; (1949, six months) £E73·6 million.

Transport and Communications. Roads (1947): 8,874 mi. Licensed motor vehicles (Dec. 1948): cars 37,890, commercial vehicles 11,800. State railways (1948): 3,109 mi.; passengers carried 51,052,000; goods traffic 8,345,000 tons. Shipping (July 1948): merchant vessels 50, total tonnage 83,073. Misr Air transport (1945): miles flown 1,184,723, passenger-mi. 6,448,157, freight net ton-mi. 90,046, air mail carried 27·7 metric tons. Telephones (1947): subscribers 99,814.

Finance and Banking. (Million £E) Budget: (1948-49 est.) revenue 141·5, expenditure 183·4; (1949-50 est.) revenue 147·1, expenditure 188. National debt (Nov. 1949; in brackets, Nov. 1948): 116 (113). Currency circulation (July 1949; in brackets, July 1948): 141 (131). Gold reserve (July 1949; in brackets, July 1948): 53 (53) million U S. dollars. Bank deposits (May 1949; in brackets, May 1948). 224 (211). Monetary unit: *Egyptian pound* with an exchange rate of £E0·975 to the pound.

EINAUDI, LUIGI, Italian economist and statesman (b. Carrù, Piedmont, March 24, 1874). For his early career see *Britannica Book of the Year 1949.*

After the liberation of Italy, Einaudi, on Jan. 4, 1945, was appointed governor of the Bank of Italy. On June 1, 1947, he joined the De Gasperi (*q.v.*) cabinet as deputy prime minister and minister of the budget. On May 11, 1948, he was elected second president of the Italian republic. On Dec. 15, 1948, he paid an official visit to Pope Pius XII in the Vatican city. On Nov. 9, 1949, he received a gold medal from the University of Turin to mark his formal retirement from teaching.

EIRE: *see* IRELAND, REPUBLIC OF.

ELECTIONS. Commonwealth. During 1949 general elections took place in three British dominions: Australia, Canada and New Zealand.

Australia. At the time of the elections held on Dec. 10 out of a population of 7,581,000 over 5,000,000 men and women were on the electoral register. As voting in Australia was compulsory, over 91% voted to elect a new House of Representatives of 123 members (instead of 75) and a new Senate of 60 members (instead of 36). The results of the voting for the House of Representatives, as compared with four previous elections, were as follows :

Parties	Oct. 23, 1937	Sept. 21, 1940	Aug. 21, 1943	Sept. 28, 1946	Dec. 10, 1949
United Country (Conservative) party	17	14	9	11	20
United Australia (Liberal) party	28	23	14	17	54
Federal Labour party	20	32	49	43	48
Independents	10	6	3	4	1

Of 4,620,759 votes recorded, the Country party polled 500,349 (10·9%), the Liberal party 1,816,292 (39·5%), the Labour party 2,124,214 (46·2%), the Communist party 40,941 (0·8%) and other parties 138,963 (2·6%). The Labour party, in power from 1941, suffered defeat on the straight issue of Socialism but the Liberal and Country parties coalition polled only 50·4% of the total Commonwealth vote.

With the exception of Tasmania, where proportional representation with single transferable vote was used, the Australian states elected their legislatures and their federal parliament by majority system with alternative vote. On Dec. 10, however, for the first time proportional representation with single transferable vote was used throughout the Commonwealth to elect 42 new members of the Senate (seven from each state), since 18 members of the old Senate were not due to retire until 1952. As 15 of these were Labour members, the Labour party retained a small majority in the Senate which was composed as follows (previous party strength in brackets): United Country and United Australia parties 26 (3), Labour party 34 (33).

Canada. On June 27 the Liberal party was returned to office by a vote which gave it the largest majority in the history of the House of Commons. The distribution of seats—compared with those of Oct. 14, 1935, of March 26, 1940, and of June 11, 1945—was as follows:

	1935	1940	1945	1949
Progressive Conservative party	39	38	67	42
Liberal party	171	178	125	192
Co-operative Commonwealth federation (Labour)	7	8	28	13
Social Credit party	17	10	13	10
Labour Progressive (Communist) party	—	—	1	—
Independents	11	11	11	5
	245	245	245	262

Except for Alberta, which remained faithful to its Social Credit party, the Liberals carried every province. In French-speaking Quebec they won 68 out of 73 seats. It was generally considered that the electoral alliance concluded by the Progressive Conservative party with the Quebec isolationist *Union Nationale* had been a tactical error.

New Zealand. On Nov. 30 the 14 years' rule of the Labour party which had been in gradual decline since coming somewhat unexpectedly to power in 1935 was broken by decisive defeat at the polls. From 1946 the European seats were equally divided between the Labour party and National opposition and the government relied only on the four Maori members to keep them in office. The results of the elections (by majority system), as compared with the four previous ones, were as follows :

Parties	Nov. 27, 1935	Oct. 15, 1938	Sept. 25, 1943	Nov. 27, 1946	Nov. 30, 1949
National (Conservative) party	20	24	34	38	46
Labour party	53	54	45	42	34
Independents	7	2	1	—	—

In the House of Representatives elected on Nov. 30 the Labour party retained the four Maori seats in a poll which took place one day before polling in the European constituencies. Of 1,041,772 votes recorded, the National party polled 544,682 (52·63%), the Labour party 481,606 (46·54%) and other candidates 8,588 (0·83%); 93·54% of the electorate went to the polls—the highest percentage in the history of the dominion.

Europe. Among 16 European democracies Great Britain was the only country to have a lower house elected by a simple majority system; 13 countries adopted proportional representation with a party list; the republic of Ireland retained the so-called single transferable vote system and Western Germany combined the majority system with proportional representation. During 1949 general elections were held in Austria, Belgium, Bulgaria, Germany, Hungary, Iceland, Norway and Portugal.

Austria. Elections for the National Assembly of 165 members were held on Oct. 9 and the Austrian voters went to the polls for the second time after the end of World War II. Before the elections of Nov. 25, 1945, there were in Austria 3,419,605 electors on the voting register. In Oct. 1949 4,391,815 persons were entitled to vote. The bulk of the new voters were former nazis or nazi sympathizers who had been disfranchized in the 1945 elections; there were also about 280,000 prisoners of war who had returned home and some 180,000 newly naturalized *Volksdeutsche*. The results of the elections compared with those of 1945, were as follows:

	1945			1949		
	Votes	%	Seats	Votes	%	Seats
People's party	1,602,244	49·9	85	1,844,850	44·2	77
Social Democrats	1,434,898	45·1	76	1,621,275	38·6	67
Communists	174,237	4 0	4	212,651	5 0	5
Independents	—	—	—	489,132	11·7	16

An estimated 94% of registered voters went to the polls. There were indications that the Independents (Wahlpartei der Unabhängigen) owed their comparative success to the votes for re-enfranchized ex-nazis.

Belgium. In accordance with the census of Dec. 31, 1947, the distribution of seats in the parliament was modified. There were 212 seats in the Chamber of Deputies instead of 202. A compromise left unaltered the number of Walloon seats, and allowed eight more seats to the Flemish region and two more to the bilingual Greater Brussels area, so that the proportion was 104 Flemish, 76 Walloon and 32 Brussels representatives. In the Senate the division was not so apparent, as its composition was more complex: 106 senators (101 in 1946) were returned by the same electorate as the Chamber of Deputies, 46 were chosen by the councils of the nine provinces and 23 were co-opted by senators already elected. For the first time women went to the polls. Before the elections of Feb. 17, 1946, the total of registered electors was 2,724,796, but in the elections of June 26, 1949, 2,930,270 women were entitled to take part as well as 2,705,182 men. The votes cast for the Chamber of Deputies, compared with those of 1946, were as follows:

	1946		1949		
	% of votes	Seats	Votes	%	Seats
Social Christian party	42·5	92	2,187,310	43·5	105
Liberal party	8·9	17	766,655	15·3	29
Belgian Labour party	31·6	69	1,496,890	28 8	66
Communists	12·7	23	376,876	7·5	12
Independents	4·3	1	198,567	3·9	—

Although in Belgium voting is compulsory 10·7% of the registered voters did not present themselves at the polls. The "royal question" played a prominent part in the elections. The Social Christian party, which advocated the abolition of the regency and the return of King Leopold III (*q.v.*) from exile, failed to gain an absolute majority in the Chamber of Deputies, but achieved a small one in the Senate. The elections were a relative success for the Liberals and a defeat for the Communists.

Bulgaria. The elections held on Dec. 18 were in effect a plebiscite for single lists of candidates of the Fatherland front comprising only the Communist party and the rump Agrarian union. It was officially announced that out of the electorate of 4,751,849 the total votes cast numbered 4,698,979 (98·9%) and that 4,588,996 (97·6%) votes were cast for the Fatherland front. There were 110,080 blank or spoiled papers. In the elections held on Oct. 27, 1946, the opposition polled 1,214,480 (30%) of the total votes cast and obtained 101 seats out of 465. In 1949 opposition could be expressed only by abstaining or by putting a blank sheet in the ballot envelope. The number of seats of the Assembly was reduced from 465 to 239.

Germany. For the first time for 17 years the people of Western Germany took part in free and democratic elections for a central parliament. No comparison was possible between the last free Reichstag elections of Nov. 1932 and the Bundestag elections of Aug. 14, 1949, as the latter were limited to the three western zones and the Bundestag represented only 42 million out of 67 million Germans. Between June 1946 and May 1947, however, nine *Länder* and two free cities of Western Germany elected their Landtage and it was possible to compare the percentages of seats gained by parties in the provincial Landtage counted together and the Bonn parliament respectively. The results of the August elections, arranged from the Right to the Left, were as follows:

Parties	Votes	Seats			Percentages	
		Elected directly	Elected by P R.	Total	1949	1946-47
D R P. (German Right party)	428,949	—	5	5	1·2	—
D P. (German party)	940,088	5	12	17	4·2	2·7
W A V (Economic Reconstruction)	681,981	-	12	12	3·0	—
B.P (Bavarian party)	986,606	11	6	17	4·2	—
C D U. (Christian Democrats)	7,357,579	115	24	139	34·6	40·2
Zentrum (Roman Catholics)	727,343	—	10	10	2·5	2·5
F D P. (Free Democrats)	2,788,653	12	40	52	12 9	8·2
S P.D. (Social Democrats)	6,932,272	96	35	131	32·6	37·5
K.P D (Communists)	1,360,443	—	15	15	3·7	8·4
S.S.W (South Schleswigers)	75,387	—	1	1	0·3	0·5
Independents	1,134,466	3	—	3	0·8	—

Of 31,179,422 voters 78·5% went to the polls. About 6·7 million did not vote. Out of 402 members of the Bundestag 242 were elected directly, that is, in one-member constituencies by simple majority, and 160 seats were allotted to the parties according to their voting strength. As the table shows, the proportional representation for 40% of the seats favoured mainly small parties: without it the German Right party and Loritz's W.A.V., as well as the Zentrum and the Communists, would not have been represented at all.

On May 15 and 16 elections took place for the People's Congress in the Soviet zone. In spite of strong pressure to vote for a single list of Communist-sponsored candidates one-third of the electors voted against the Communist nominees. According to the published figures, of the 12,887,234 who went to the polls, 4,080,272 voted against the Volksrat's list of candidates.

Hungary. The elections took place on May 15, the Ministry of the Interior announcing three days later that out of the electorate of 6,053,972 the total votes cast numbered 5,730,519 (94·6%) and that 5,478,515 (95·6%) votes were cast for the People's Independence front and 165,283 against, with 86,721 spoiled papers. No opposition candidates were tolerated. In the pre-arranged composition of the new

National Assembly 270 seats out of 395 were allocated to the United Workers' (Communist) party. In the Assembly elected on Aug. 31, 1947, the Communists won 100 seats out of 411 and in that elected on Nov. 4, 1945, 69 seats out of 409.

Iceland. Elections for the Althing of 52 members were held on Oct. 23. The political composition of the new parliament compared with that elected on June 30, 1946, was as follows:

	Seats 1946	Seats 1949	Votes 1949	%
Independence (Conservative) party	19	19	28,547	39·5
Progressive (Farmers') party . .	14	17	17,659	24·5
Labour (Social Democratic) party .	9	7	11,938	16·5
United Socialist (Communist) party	10	9	14,077	19·5

The total number of registered voters was 83,400, of whom over 33,000 were resident in Reykjavik.

Norway. On Oct. 10 the Norwegian people renewed their Storting of 150 members for the second time after the liberation. The results of the general elections, compared with those of Oct. 8, 1945, were as follows:

	1945 Votes	1945 %	1945 Seats	1949 Votes	1949 %	1949 Seats
Joint Right-wing lists . .	87,797	5·9	—	106,959	6·1	—
Conservative party	225,280	15·2	25	277,913	15·9	23
Agrarian party .	73,537	4·9	10	85,008	4·9	12
Christian People's party . .	117,579	7·9	8	146,413	8·4	9
Liberal party .	189,591	12·8	20	216,581	12·4	21
Labour party .	609,255	41·2	76	800,792	45·8	85
Communist party	176,491	11·9	11	101,666	5·8	—

The total poll, a record for Norway, was 87% as against 76% in 1945, the total number of valid votes being 1,748,246 as against 1,484,185 in 1945. The Labour party, which in 1945 had secured for the first time a clear majority in the Storting, improved its position considerably although it did not obtain an absolute majority of votes. The Communists, who before World War II had no representation in the Storting, lost the 11 seats gained in 1945.

Portugal. Elections for the National Assembly of 120 members were held on Nov. 13. In the four elections already held under the constitution of 1933 the only list presented was that of the União Nacional. In Nov. 1945 a Democratic opposition had been formed but boycotted the election. The boycott was renewed in Nov. 1949 but in two constituencies there were two opposition lists, with a total of eight candidates: at Castelo Branco a list of Constitutional Republicans and young Monarchists was led by Dr. Cunha Leal; at Portalegre the list was headed by a Monarchist, Pequito Rebelo. Both the opposition lists were defeated and all the candidates of the government party, half of them civil servants, were elected.

Other Countries. *Israel.* Eight months after coming into being as an independent state, Israel held elections on Jan. 25. A total of 440,095 people, over 90% of the electorate, went to the polls. The results were as follows:

Parties	Votes	%	Seats
L.H.Y., or Fighters for Freedom (N. F Yellin)	5,363	1·2	1
Herut, or Freedom party (Menahem Beyghin)	49,782	11·3	14
United Religious Front (Ashkenazim) . .	52,982	12 0	16
Sephardi group	15,287	3·5	4
Progressive front	17,786	4·0	5
General Zionists	22,661	5·2	7
Israeli Labour party*.	155,274	35·3	46
United Workers' party†	64,018	14·5	19
Israeli Communist party	15,148	3·4	4
Women's Zionist organization . . .	5,173	1·2	1
Yemenite Jews	4,399	0·9	1
Nazareth Democrats (Arabs) . . .	7,387	1·7	2

*Mapai or *Mifleget Poalei Eretz Israel.*
†Mapam or *Mifleget Poalei Menoukhedet.*

The party list method was used with proportional representation applied to the whole country as one constituency. As 3,500 votes were needed to obtain one seat, nine splinter parties were eliminated.

Japan. Elections of a new Diet of 466 members took place on Jan. 23. The distribution of seats—compared with that of April 10, 1946, and of April 25, 1947—was as follows:

	1946	1947	1949
Liberal (Conservative) party . . .	143	131	264
Democratic (Progressive) party . . .	94	128	68
Co-operative party	16	31	14
Social Democratic party	92	144	49
Workers' and Peasants' party . . .	10	7	7
Communist party	5	4	35
Minor parties and Independents . . .	106	21	29

There were 30·5 million votes cast which represented 70% of the registered voters. The Liberal (Conservative) party obtained 13·4 million votes (43·8%) and gained an absolute majority in the Diet. The Social Democrats lost two-thirds of their seats. The elections also marked some success for the Communists who received 2,900,000 votes (9·6%).

(K. SM.)

ELECTRICAL INDUSTRIES. During 1949 electrical manufacturing continued to be influenced very stongly by the urgent need for generating plant and for high-tension transmission equipment by which power could be transported from distant generating points to load centres. There was evidence, also, of efforts to overcome currency difficulties by substitution of readily available raw materials for those which had to be imported. In European countries the emphasis was upon exports, particularly to dollar areas, even to the possible detriment of their internal supply of electrical equipment. Currency devaluations in Sept. 1949 helped in this direction.

The British Electrical and Allied Manufacturers' association issued the first edition of a most comprehensive catalogue of British electrical products, from heavy power plant to domestic appliances, to assist the export drive by providing authoritative information to overseas buyers.

Further measures were taken to assist development of transmission and distribution equipment by increased standardization. The council of the International Electrotechnical commission met at Stresa, Italy, in June. One of its committees reviewed the list of standard voltages for A.C. systems and extended it up to 400 kilovolts. Others considered a draft international specification for porcelain insulators, tests upon transformer oils, specifications for oil circuit breakers and for ionic converters.

Research. Atomic energy research in the United Kingdom, the Commonwealth and the United States continued very actively; new establishments were planned and their construction commenced, but doubts continued to be expressed concerning the ultimate economy of that source of energy for electricity generation. Further study of tidal power schemes was carried out and the construction of a model of the Severn estuary for experimental research was planned.

Investigations on the possibilities of wind power for electricity generation on a large scale made good progress, and preparations were made to instal two 100 kilowatt wind-driven generators, one in Orkney by the North of Scotland Hydro-Electric board and one by the British Electricity authority, to gain operating experience. The Hydro-Electric board, and also the Ministry of Fuel and Power sponsored research on the burning of peat in gas turbines for electricity generation.

An Electricity Supply Research council was set up by the British Electricity authority to keep under review questions affecting electricity supply; to advise on specific supply problems and to make recommendations on research which

should be initiated. In the industrial field research followed the prevailing trend of emphasis on large generating plant and super-tension transmission, although important work was also done on the development of new manufacturing materials, on public and industrial lighting and heating and on the utilization of electricity for industrial and agricultural power purposes.

Cable research was very active, particularly in the direction of developing cables to work at A.C. voltages of up to 300 kilovolts, for D.C. voltages of the order of 500 to 1,000 kv. and for submarine transmission of power over long distances. Arrangements were made to test a British 220-kv. cable connected to the French 220-kv. network over a long period. In switchgear for 200 kv. and above, a breaking capacity of 2,500 megavolt-amperes or 5,000 Mva. may be needed; research and development work on such gear was proceeding. For economy when transmission voltages of 300 to 400 kv. are used, the largest transformers which can be transported will be needed, so that means of reducing transformer weight were being investigated. There was a tendency towards the adoption of groups of single-phase units for very high voltages and outputs because of transport limitations.

A short length of 275-kv. line was erected by the British Electricity authority. On this 4-unit strings of insulators were to be used, the units having a semi-conducting glaze. The technique of manufacturing porcelain insulators with semi-conducting ceramic glazes was a significant development; such insulators gave a remarkably good performance in humid and polluted atmospheres. These glazes were especially useful in controlling voltage distribution on high-voltage air-break switchgear and they were used on 132-kv. cable sealing ends.

Information was published on research on magnetic materials and on the remarkable improvements made during and after World War II in the characteristics of electrical steels and other ferro-magnetic materials used in radar and nuclear physics.

Generating Plant. In Great Britain steam turbo-generators for public supply power stations were standardized at 30 or 60 Mw. and the former was approximately the average size of set in use. In view of the need to increase generating capacity as quickly as possible the installation of larger sets was becoming more common and this average appeared likely to rise during the next few years to between 40 and 50 kw. In the United States a single-shaft set of 161,760 kilovolts-amperes was being designed to operate at a steam pressure of 1,250 lb. per sq. in. and 950°F. The generator was to be hydrogen cooled.

Walsall power station, the second of the 38 new stations inaugurated since nationalization in Great Britain was officially opened on Sept. 30. It had then in operation two 30 Mw. sets but would have a total capacity of 180 Mw. by 1952. In the same B.E.A. division two further new stations, one of 210 Mw. and the other 120 Mw. were under construction. In addition to large gas turbines being constructed for the B.E.A. and North of Scotland Hydro-Electric board, a simple open-cycle gas turbine unit to drive a 750-kw. alternator was developed as a private venture by an English manufacturer. It was intended to be a general purpose, long-life prime mover. Another type of 1,000 kw. gas turbine and generator for base load operation was under construction for the Admiralty.

Transmission and Distribution. As an extension of the grid system of the B.E.A., a 33-kv. submarine cable, the largest cable of this voltage ever installed in Great Britain, was laid across the Solent from Gurnard, Isle of Wight, to Lepe in Hampshire. Of total length 2·9 mi., it was approximately 6 in. diameter and weighed 132 lb. a yard. Another submarine cable (for telephone circuits) 80 mi. long was laid between eastern England and Holland. Its main insulation was of telecothene, a new polythene-base insulating material.

Up to June, 1949, the total of orders placed with British transformer manufacturers during the past few years for transformers to operate at 200 kv. and over was 1,187,000 kva. in 18 installations. These included 120,000 kva. at 242 kv. for the U.S.S.R. in 1942 and other groups at 220 kv. for Holland and Finland.

The cuts in capital expenditure announced by Sir Stafford Cripps in October included one for electricity distribution which was expected to cause some check to rural electrification during 1950. This was unfortunate in view of the excellent work done by the area boards and Electrical Development association, at agricultural shows throughout the country, to inform farmers on the uses of electricity in agriculture.

Utilization. An important event was the official opening by the minister of transport on Sept. 26 of the electrified railway service between Liverpool Street station, London, and Shenfield. The work was started in 1939 but was suspended during the war. An overhead system operated at 1,500 volts D.C. was used, the power supply being at 33 kv. from the grid. Rectification was by twin, 1,000-kw., six-anode, pumpless, steel tank rectifiers. The rolling stock comprised 92 three-coach sets, the motor coaches each having four 210-h.p. motors. Another railway electrification scheme —for Brazil—involved the manufacture by a British firm of 15 3,000-h.p., 3,000-volt D.C. mixed traffic locomotives. These were the largest type ever manufactured in Britain and would be used on a 64-km. length of main line then being electrified. One locomotive could haul a load of 600 tons at 45 m.p.h. on the level or at 20 m.p.h. up a 2·5% gradient. Electric vehicles gained further in popularity. At the Dairy show, at Olympia, London, in October, nine manufacturers showed various types. Almost three-quarters of all the machinery and appliances exhibited at this show was electrically operated. Two makes of dairy sterilizer were of the thermal storage type, which thus followed the general trend of agricultural electrical equipment towards low electric loading and off-peak operation. Barn hay-drying by cold air blowing and electric soil warming in glasshouses was being adopted. Electric hoists were prominent and included one with stable creep control specially suited to cranes.

Owing to their simplicity in installation, ease of control and clean melting, induction furnaces continued to gain in popularity. A new 25-kw. radio frequency unit was built which was capable of melting 20lb. of ferrous metal in 20 to 30 min. Its operating frequency was 600 kilocycles per sec.

Interest in the possibilities of residential heat pumps, of a few kilowatts capacity, was strong and increasing. Unfortunately their capital cost was high. For economy in use they were to be applied to summer cooling as well as to winter heating. Research and development were devoted to investigation of heat sources and their economic utilization and towards reducing the cost of construction.

In Great Britain in April the restriction on electric lighting for display purposes was removed until October. This focussed attention on display lighting, and the Silver Jubilee meeting of the Association of Public Lighting Engineers in London in September provided the occasion for a full discussion of all aspects of public lighting. Fluorescent lighting made further strides and was being extended to underground railway trains. An important development was the colour matching fluorescent tube. The specially developed lighting equipment for the huge assembly hall, 7½ ac. in floor area, at Bristol in which the Brabazon I was built created much interest. At the mounting height of 75 ft. above the floor high efficiency lamps could be used without risk of glare. A combination of 1,500-w. tungsten filament and 400-w. mercury vapour discharge lamps was installed.

Materials. Advances in insulating materials included the application of asbestos paper impregnated, with a heat-resisting varnish for high temperature uses, and a new fabric "Terylene" which had very low moisture absorption and could withstand 180°C. Improved methods of manufacture for electrical sheet steel led to a much lower iron loss, higher permeability and greater mechanical strength. Much interest was shown in the new "ferrites"—developed through research in Holland during the war. Non-metallic magnetic materials having high permeability and very high resistivity resulted from the mixture of certain oxides (ferrites) by a sintering process.

Aluminium and light metal alloys were put to new uses. Aluminium alloy conduits and zinc alloy fittings were employed for wiring circuits and a series of notes on the subject was published by the Institute of Electrical Engineers' Wiring Regulations committee. In Norway, which had an increasing output of aluminium, its use for overhead line pylons was under consideration. Again, the world shortage of lead, as well as its poor mechanical properties and high weight, led to the introduction of aluminium sheathing for cables of all types.

Electrical Exports. The need to export from Great Britain electrical machinery and equipment for which there was a good overseas market became even more urgent than in 1948. Although in the earlier months there was some reduction in the value of such exports, the Board of Trade figure for the value of exports of electrical goods and apparatus in the first 10 months of 1949 was £66,595,797 which compared with £59,701,393 for the same period in 1948. (E. W. G.)

United States. Electric utility customers bought 248,750 million kwh. of energy in 1949, an increase of 8,010 million kwh. on 1948. Sales to residential and rural customers continued to grow and were 65,925 million kwh., about 8,600 million more than in 1948. Average annual residential use of electricity rose from 1,563 kwh. in 1948 to 1,685 kwh. in 1949. Customers paid the electric utilities $4,611 million in 1949, about $298 million more than in 1948, a 6·9% increase. The average revenue from all customers in 1949 was 1·85 cents per kwh. as against 1·79 cents in 1948.

The number of customers served in 1949 grew to a total of 42,836,000, an increase of 2,114,000 over 1948. The largest increase was in the residential class. The number of people in homes served by electricity in 1949 was about 137·5 million or approximately 95% of the total population.

New capital entering the business in 1949 was $1,445 million as compared with $1,314 million in 1948, and $576 million in 1947. The total financing in 1949 was thus $1,793 million. The share of the revenue available for dividends and surplus rose in 1949, due to increased revenues and higher operating efficiency. In 1947, the proportion was 18·2 cents; in 1948 it fell to 16·7 cents; in 1949 it increased to 18·2 cents. The gross operating revenue of power companies rose from $3,903 million in 1948 to $4,150 million in 1949. Money left for net income in 1949 was $778 million, $108 million greater than the net income reported in 1948.

In 1949, the Federal Reserve board index of general industrial production dropped to 203, 8 points below 1948. The electrical production index dropped to 429, 48 points below 1948 and only 14 points above 1947. Following a distinct slowing-up of production in 1948, electrical goods for industrial installation continued to decline in 1949. (*See* also BROADCASTING; RADIO, SCIENTIFIC DEVELOPMENTS IN; TELEVISION.) (F. J. K.)

ELECTRIC POWER. In spite of political and economic difficulties resulting in some curtailment of capital expenditure on generation and transmission plant, the efforts to rectify the widespread deficit in electric power plant continued in 1949. The position of power capacity and energy production in western Europe was clearly set out in a report of the Electricity committee of the Organization for European Economic Co-operation issued during the year. This showed that an estimated deficit of 8·5 million kilowatts in 1949 would be likely to rise, through increasing demand, to a deficit of 20 million kw. by June 1952 and that the new construction planned would still leave a gap of 4 to 5 million kw. or 16,000 million kwh. a year.

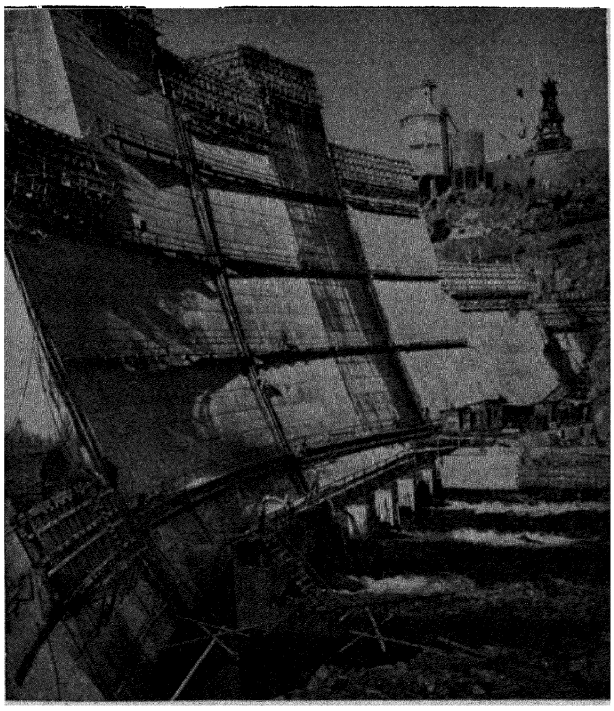
Conditions in the electrical manufacturing industry showed improvement and this assisted the effort to provide the much needed generating equipment. The difficulties of the international monetary position, particularly of dollar shortages, were a handicap which might however disappear under the arrangements being made for economic co-operation. Developments in new forms of generating plant made progress. Several large gas-turbine sets were nearing completion in readiness for being put into service in 1950 or 1951. The application of atomic energy to electricity generation was brought nearer to fulfilment by much active research and by the decision to establish in Great Britain a new experimental station; but the practical realization of atomic power stations remained a comparatively long-term project. The possibilities of tidal power, particularly from the Severn barrage, continued to receive attention, but its development was postponed mainly because of the very high capital cost—around £60 million for the 800 megawatts of generating capacity.

Interest in the practicability of large scale generation of electricity by wind power was increased by encouraging results from research work in both Great Britain and France. The North of Scotland Hydro-Electric board placed a contract for a 100 kw. experimental wind-driven generator to be erected on Orkney in 1950, and the British Electricity authority also invited tenders for a similar plant.

The utilization of water power resources often involves the transmission of power over several hundred miles to the centre of the load. Hence much attention continued to be given to extra-high-tension transmission at voltages up to 400 kilovolts. Sweden's decision to harness the largest waterfall in the country, at Harsprånget, 600 mi. north of the industrial districts, led to the planning of a 380 kv. alternating current transmission system. This was under construction and was designed so that it could later operate at 400 kv. connected to a European network of that voltage linking the Ruhr and other industrial areas with Austrian and Swiss water power stations. The possibilities of high-tension direct-current transmission for large blocks of power to be carried over long distances—300 mi. and over—were discussed particularly in connection with such projects as transmission by under-water cables from Norway to Denmark or Great Britain.

Great Britain. After its first year of operation, beginning on April 1, 1948, the British Electricity authority had completed its organization. Good progress was made both in its power production programme and with distribution, though that in rural electrification was likely to be retarded by the government's autumn cuts in capital expenditure.

The total installed generating capacity (at the end of September) of the B.E.A. and North of Scotland Hydro-Electric board together was 13,564 megawatts, and the peak load carried during the winter 1948-49 was 10,163 Mw. During the first year of operation (April 1948 to March 1949) the number of units sent out was 44,784 million, an increase of 10·5% on the total for the preceding year. The number of consumers was estimated to be 12,300,000. Plans for new generating capacity to be installed by the B.E.A., up to and including 1952, covered a total of 5,518 Mw. Hydro-electric development in north Wales, including six major schemes to



The Clark dam at Butler's Gorge, Tasmania being built in 1949 to supply water to the Tarraleah power station.

cost approximately £20 million and with an estimated annual production of some 500 million units, were approved in principle.

The annual report of the Electricity board for Northern Ireland showed that in 1948 the number of units sold rose to 179,830,000, an increase of 28% over the preceding year, and the number of consumers to 83,066, an increase of 6,690.

North of Scotland Hydro-Electric Board. In Dec. 1948, the first two hydro-electric schemes of the board, one at Morar, Inverness-shire, and the other at Lochalsh, Ross-shire, were brought into operation. Twelve hydro-electric stations, to have a total capacity of 423,000 kw., were under construction. Nineteen projects totalling 630,000 kw. capacity and with an annual output of nearly 1,700 million units, published in 1948, were confirmed. The aggregate capacity of hydro-electric schemes being surveyed, promoted or constructed was 800,000 kw. with an estimated annual output of 2,200 million units.

A population of 45,000 was given electricity supplies for the first time during 1948, and the total population being supplied was approximately 700,000. The capacity of installed plant being operated by the board at the beginning of 1949 was 250,548 kw., which included hydro, steam and diesel plant. A " highland grid " was to be constructed to interconnect the main generating stations. This would require about 1,000 mi. of 132,000 volt transmission lines. Between April 1 and Dec. 31, 1948 electrical energy amounting to 79,085,200 units was exported to the British Electricity authority's grid in central Scotland. The board sponsored, or co-operated in, research on the design of dams, on wind power for electricity generation and on control of the growth factors of brown trout. The last research, in conjunction with the Department of the Secretary of State for Scotland, was aimed at improvement of angling in Scottish waters.

Commonwealth. The Hydro-Electric Power commission of Ontario completed 27,000 h.p. emergency steam plant at Toronto and erected some 5,000 mi. of new rural lines with connection of about 40,000 new consumers. Co-operation, through a joint Power board, between Ontario and Manitoba had been planned to facilitate future exchanges of power between the two provinces. The Pine Portage scheme on the Nipigon river was being completed at 80,000 h.p. with provisions for further development to double this amount. The Spray lakes hydro-electric project near Calgary having a capacity of 160,000 kw. was expected to be in operation in the autumn of 1950.

In Australia, work on the first dam of the largest hydro-electric project in the country—the Snowy river scheme—was inaugurated on Oct. 17. Two major schemes in Victoria, the Kiewa hydro-electric scheme and the Yallourn brown coal project, made progress. The possibility of the development and transmission of up to one million h.p. from the water power resources of Tasmania to supply the mainland was under consideration.

In spite of great progress in hydro-electric development, New Zealand was experiencing a serious shortage of power. Some 92% of the homes in the country were being supplied, and the unchecked natural increase in demand would be 9% a year. New projects under construction would add 650,000 kw. of capacity.

The South African Electricity Supply commission faced heavy demands by the gold mining industry. The total capacity of plant being installed or on order was 487,000 kw. A contract for the Owen falls project on Lake Victoria was placed by the Uganda Electricity board. It would have an ultimate capacity of 150,000 kw., costing £67 per kw. and would form a basis for great industrial development in Uganda.

Total public supply generating capacity in India was 1·4 million kw., which produced 4,575 million units in 1948. The construction of several additional large steam-driven power stations and hydro schemes was planned.

The Federation government, Malaya, passed an Electricity bill establishing a Central Electricity board but it was decided that existing commercial supply undertakings should not be compulsorily acquired.

Europe. Under the European Recovery programme an international programme of power station construction and interconnection had been planned for western European countries. This covered the building of a total capacity of 2,800 Mw. to produce 7,700 million units annually, including 13 hydro-electric projects in Austria, France, Italy, Switzerland and the Benelux countries. A complementary programme included national projects requiring external financial assistance. The total planned capacity under the two programmes was 7,800 Mw., which was in addition to the national projects for 15,000 Mw. The largest increases in net generating capacity during the next five years were to be: Great Britain (6,600 Mw.); France (2,690 Mw.); Italy (2,971 Mw.); and the bizone of Western Germany (3,000 Mw.). The greatest percentage increase was for Greece, where the capacity was to rise from 156 Mw. in 1948 to 619 Mw. in 1953.

Before World War II, 220-kv. lines running from eastern Germany to Austria and Italy allowed power to pass northwards when there was ample hydro power in the south and southwards from German thermal plant during the winter, when the water flow was small. Removal of generating plant in eastern Germany after the war upset this transfer, but it was to be re-established by the construction of an east-west line in western Germany. The 220-kv. lines would later be converted to an operating voltage of 400 kilovolts.

Developments planned for Italy included the construction of a transmission line 1,200 km. long from the Alps to Sicily and an increase in geo-thermic generating capacity from 125 Mw. to 375 Mw. by 1953.

Finland, which in the peace treaties had to cede about a quarter of her established water power, was making great

efforts towards postwar recovery by completing several stations under construction and by building 11 new hydro-electric stations. The first of these went into operation in 1948, and by 1952 all of them would be completed, raising the hydro-electric generating capacity from 440 Mw. to 800 Mw. All the economically usable main water-power resources of Finland, which could provide 10,000 million units annually, would be utilized within the next 20 years.

The potential water power resources capable of development in the Scandinavian countries was recently estimated, in terms of annual energy production, as follows: Norway 120,000 million units a year; Sweden 50,000 million; Finland 10,000 million. It was probable that Norway would be able in future to export power, particularly to Denmark and Finland, when high-tension direct-current transmission would have become further developed. (E. W. G.)

United States. The U.S. electrical industry was nearing or had passed its peak in 1949. Energy produced for the public supply exceeded the output for 1948 by only 2·9% as compared with a 10·1% increase the previous year. Total output was 290,783 million kwh., as compared with 282,698 million kwh. in 1948. To generate this output in 1949, the average kilowatt of hydro capacity produced at maximum capacity for more than 63 hr. out of every 100, while steam capacity produced for about 54 hr. out of every 100. Of the output increase of 8,085 million kwh. in 1949, 6,815 million kwh. were furnished by hydro power plants.

The net increase in generating capacity in 1949 up to Nov. 1 was 4,606,000 kw. bringing the total capacity up to 61,166,000 kw. The reported new capacity installed in 1949 was 6,750,000 kw. Preliminary figures set the peak load at 54,300,000 kw. and indicated that the margin of safety would be about 12% or double that of 1948. (F. J. K.)

ELECTRIC TRANSPORT. Despite considerable financial difficulties in many European countries railway electrification made headway in 1949. Fresh impetus was being given by Marshall aid to restoration and to new conversions, especially in Austria and in Italy. Considered individually the contribution of each country might be small but a review of the year's achievements was not unimpressive. Electric working must be justified for the most part by its economy, rather than by the improved facilities it can offer and in practically all countries electrification was regarded as a contribution to the development of national resources.

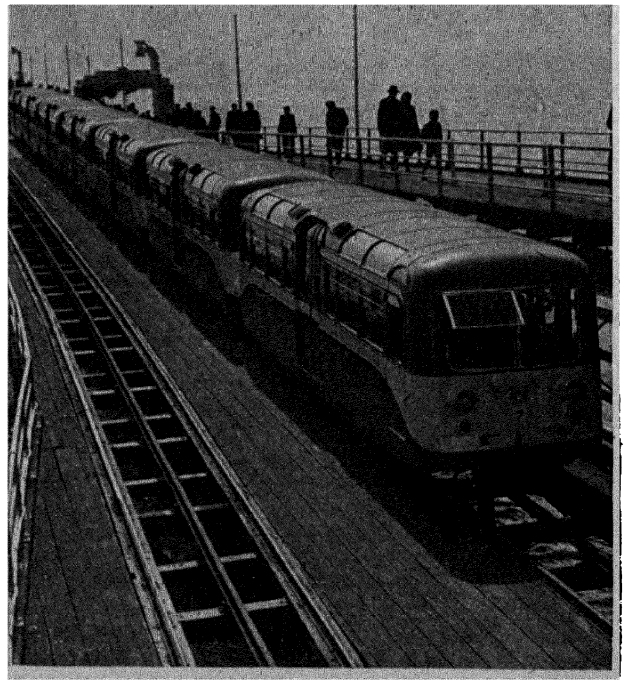
Wholesale destruction during World War II and intensive use of transport equipment under poor maintenance presented an opportunity for re-equipment on a large scale, and forced consideration of a motive power policy for some 30 years ahead. Alternative forms of traction were closely examined and the selection of previously accepted standard systems of electrification reviewed. The French railway administration held the view that despite adherence to the standard 1,500 volts D.C. for main line electrification a 50-cycle single-phase system would be preferable on economic grounds for the conversion of secondary lines. In Great Britain a committee was also reconsidering, in the light of modern developments, the selection, made some 20 years earlier, of 1,500 volts D.C. as the standard system.

Great Britain. In Sept. 1949, the Central line of the London Transport executive was extended from Loughton to Epping (five mi.). This administration placed orders for 90 surface line cars of aluminium alloy in order to obtain comparative data of cost and performance and to secure a saving in energy consumption. A weight reduction of 3·1 tons a car was anticipated. In September, also, the Eastern region's 1,500 volt D.C. suburban electrification from London (Liverpool Street) to Shenfield was begun. Ninety-two three-car multiple unit sets were provided to operate over 23 route and 110 single track mi. An eight-car experimental double decker multiple-unit train was put into service on the Southern region in November.

The working party appointed to review proposals for railway improvement put forward by the Railway (London Plan) committee published its report on railway construction and development advocated in Greater London. The electrification of all remaining steam-operated suburban services radiating from London, except on the Western region, was proposed as far as High Wycombe, Tring, Luton, Hitchin, Bishops Stortford and Shoeburyness. Such services were to be continued diametrically across London in tubes taking full sized rolling stock. An under river freight route *via* Greenwich of 5½ mi. was also included. Additional normal sized tubes (12 ft. in diameter) would be constructed both on new routes and extensions to existing routes. The Bakerloo line extension to Camberwell Green was already authorized. The total route miles in the tube would be 103 mi. and the estimated cost of £238 million was for constructing and equipping the tube lines only, excluding the electrification of the surface lines.

Austria. Electrification in Austria benefited from Marshall aid. Electric working was introduced in May 1949 on the Attnang-Putchheim-Linz section (34 mi.), bringing the total electrified mileage on the main line between Vienna and Buchs on the Swiss frontier up to 342 mi. The Vienna-Linz section (117 mi.) was still to be converted, though the Salza hydro-electric station, which would eventually supply power to this section, was commissioned during the year. Another hydro station was under construction at Kaprun to supply power for the existing Innsbruck-Bregenz line.

Belgium. The conversion of the Brussels Midi-Linkebeek-Charleroi (35 mi.) route was completed in October. The second Brussels Nord-Schaerbeek-Antwerp line (27 mi.) and the connecting loop Linkebeek-Schaerbeek was in hand. These schemes were allied with the junction railway between Brussels Midi and Brussels Nord on which steady progress was made during the year. Plans provided for through freight working between Antwerp Nord and Monceau, near



One of the new electric trains brought into use on April 13, 1949, for service on Southend pier—over a mile in length.

Charleroi, as soon as work in the Brussels area allowed.

Bulgaria. One hundred and eighty-six route mi. of line radiating from Sofia were included for electrification in the five years 1949-53. The first two for conversion were Sofia-Plovdiv (107 mi.) and Sofia-Mezdra (55 mi.) with an estimated annual consumption of 150 million units.

France. Despite financial difficulties work on the Paris-Lyons (318 mi.) electrification was proceeding steadily. This was one of the most heavily loaded sections of the French railways and the annual consumption between Paris-Dijon would be 250 million units, with a further 150 million units from Dijon to Lyons. The bulk of this power would be produced in the Génissiat hydro-electric plant. Tests of a new C_0-C_0 4,000-h.p. express locomotive were remarkably successful. It was the first French locomotive with total adhesion having two three-axle motor bogies. The traction motors were entirely suspended from each bogie frame and drove the wheels through hollow shafts. On a test run between Paris and Bordeaux (362 mi.) a maximum speed of 105·6 m.p.h. was reached with an average of 81·4 m.p.h. Until the Lyons route was opened locomotives of this type were to be employed on the Paris-Hendaye and Paris-Toulouse routes.

Further progress was made during the year on the possibility of extending electric traction on branch lines on the A.C. single phase system taking power from the industrial network at 50 cycles. Two problems required solution, the development of a satisfactory 50-cycle A.C. traction motor and the avoidance of disturbance to other loads on the industrial distribution system. Orders were placed for three experimental locomotives which would operate either from A.C. or D.C. Two of them would have 50-cycle traction motors fed directly from the line on A.C. sections and through a convertor, with a reduced output adequate for station duties when operating on 1,500 volts D.C. at an interchange point. The third locomotive would have 1,500-volt D.C. traction motors supplied either direct from the line on D.C. or through an A.C./D.C. motor generator when working on the single-phase routes. Running trials would be made on the line from Aix-les-Bains *via* Annecy to La Roche-sur-Furon.

Germany. Preliminary studies were made of the heavily loaded railway network in the Ruhr zone and the adjoining Rhine province with a view to electrification. The financial position was probably against any extensive electrification scheme but a start was contemplated on the Rhine-Ruhr express route between Cologne, Dusseldorf, Hagen and Hamm. To ease traffic working the conversion of the link between Stuttgart and Waiblingen was undertaken. This connected the main electrified Stuttgart-Ulm-Munich line with the Stuttgart-Nuremberg and the Aalen routes.

Hungary. Electric working was restored on the Budapest-Hegyeshalom main line between Budapest and Györ (93 mi.). The locomotives on this line operated on the Kando system in which 50-cycle single-phase current was taken from the industrial network and converted to three-phase variable frequency on the locomotive by rotating machinery. New 3,200-h.p. locomotives were delivered by the Ganz works. These had one three-axle and one two-axle bogie, on each axle of which an induction motor was mounted. Five economical running speeds with automatic regeneration on down grades were available. The electrification of the Budapest-Hatvan-Miskolc main line (115 mi.) was planned as part of a five-year programme in which was included an underground railway for Budapest, the first four-mile section to be completed within the five years.

Italy. Marshall aid funds were used to extend the 3,000 volts D.C. system to Genoa Brignole on the Genoa-Rome route. The possibility of converting to D.C. the three-phase line between Genoa and Ventimiglia was also under review. A short connecting link was to be built between Avellino and Palma-San Gennaro. This would shorten the distance between Naples and Avellino by nine mi. The old route, Poretta-Pistoia, 61 mi. of single track on the Milan-Bologna-Rome line, was re-opened for electric working. As the intermediate sub-stations were not finished, power was supplied from Bologna and Florence and the resultant voltage drop was compensated for by special equipment on the electric locomotives and at certain points along the line. The experiment was of interest in its possible application to other secondary lines planned for electrification.

Netherlands. During May 1949 the electrification of the Netherlands railways from Eindhoven to Maastricht and Heerlen was opened. This section comprised 90 route and 230 track mi. and included the large coal marshalling yard at Susteren. The work was estimated to save about 30% in coal amounting to over 300,000 tons a year and would facilitate the distribution of coal from the Limburg coalfield.

Norway. The abundance of hydro-electric power and the difficult coal problems during the war gave fresh stimulus to electrification and it was planned to convert by steps all steam-worked lines. Approximately 550 mi. were now electrified and further conversions made progress. Electric working on the line between Oslo and Stavanger was to be finished in 1950.

Sweden. The lines from Landskrona to Billberga and Warberg to Boras, a total of 80 mi., were converted during the year. The total length of electrified lines was now 3,500 mi. including 430 mi. of the Göteborg-Gävle railway. These lines carried 85% of the total traffic.

Switzerland. The power supply for the Swiss federal railways was investigated and a scheme was developed to meet the requirements necessitated by new conversion and increased services over the next 10 to 15 years, when complete electrification would be established. Provision would be made for an estimated annual consumption of 970 million units a year. The federal railways' own power stations provided a total of 782 million and private stations 99 million units annually. Prolonged droughts and dry winters had periodically resulted in a shortage of power. Extensions both to railway-owned and private stations were in hand and closer attention was being given to the power supply of the country as a whole.

U.S.S.R. The electrification of the line between Dolghintsevo and Nikopol (74·5 mi.) in the coalfields of southern Russia was completed in Nov. 1948, and would now be extended from Nikopol to Zaporozhe. Conversion of the Sukhum-Sochi line (70 mi.) on the northeast coast of the Black sea was proposed and power would be supplied from the large hydro-electric station in the Caucasian mountains near Sukhum. A recent conversion in this area was that of the line between the Black sea port of Poti and Samtredy (28 mi.) which was the junction between the Batum line and the coast line from Tiflis to Tuapse.

Yugoslavia. The narrow gauge line between Sarajevo and the Adriatic port of Ploce (124 mi.) was being converted to standard gauge. Its electrification was projected and power would be taken from the hydro-electric station under construction at Jablanica. Good progress was also made with the building of the Vinodol power station designed to supply current for the electrification of the Rijeka-Zagreb main line.

India. Additional sets of motor car and trailer equipment were under construction in Great Britain for the Bombay suburban lines of the Great Indian Peninsular and the Bombay Baroda and Central Indian railways. There was considerable French activity in seeking building and operating concessions for underground railways in cities abroad. Such a project for Calcutta was approved and the first 11 mi. were scheduled to be completed in 1952. The electrification

of the South Indian railway Shoranur-Cochin (80 mi.) was contemplated with the completion of the Cochin state hydro-electric development.

South Africa. Work was in progress on the electrification between Bellville-Touws River and Capetown-Woltemade together with the conversion of the Cape suburban lines from 1,500 to 3,000 volts D.C. Multiple unit stock built in Great Britain was delivered for the Reef suburban electrification, Johannesburg. Electric shunting locomotives were also on order for use there and in Capetown and Durban to reduce the smoke nuisance. (J. W. GE.)

United States. In the United States electric transport is of two main types; transit service and heavy electric traction. The first consists of various types of electric railway and trolley buses serving urban and suburban areas. The second provides transport on electrified sections of main lines with electric locomotives.

Urban Transit. At the beginning of 1949 about 75% of all urban electric passenger transport vehicles operated in the United States were in the cities of more than 500,000 population. Of the total number of passengers carried in the large cities, about 70% were being handled by electric vehicles and 30% by motor buses. In the smaller communities the situation was almost exactly the reverse, electric transport carrying 28% of the number and motor buses 72%. Additions of equipment during 1949 emphasized this trend towards the concentration of electric transport in the large cities. No new electric rail cars were ordered for operation in the smaller cities. About 700 new rapid transit cars put in service in New York city represented an important step in modernization. Electric trolley coach operations were substantially expanded during 1949, the total number of such vehicles in service increasing to approximately 6,000. For the most part the new trolley coach operations inaugurated in 1949 were replacements of streetcar lines. The total number of passengers carried by electric transportation in 1949 showed a decline of about 10% from the previous year's total of 10,600 million.

Figures issued by the management of the rapid transit street railway lines in New York city indicated an increase in the average fare paid from 5 cents to 8·73 cents, which produced an increase of 55% in gross revenue accompanied by an 11% decrease in the number of passengers carried. Although part of this decrease was the result of general business conditions, the higher fare was undoubtedly a factor. Trolley coach operation was the only type of electric transportation which registered a gain in patronage during 1949, reaching an all-time peak of about 1,750 million passengers carried. Because of the co-ordinated operation of trolley and motor bus services by a large number of companies it was impracticable to attempt to divide their budgets. In a general way, however, fare increases in recent years enabled the electric transport industry to keep gross operating revenue fairly stable despite some decline in the volume of business. Operating expenses, however, had mounted steadily so that there was a drop in net revenue over a period of years.

Heavy Electric Traction. Modernization of equipment for suburban services was the outstanding development of 1949 in the field of heavy electric traction. Orders were placed by the New York Central railroad for 100 new four-motor multiple-unit cars for operation on its 600-v. direct-current electrified line between Harmon and Grand Central terminus. These new cars were to have tight lock couplers and electro-magnetic brakes, wide windows, a three-two seat arrangement and were to be air-conditioned. They were designed for speeds up to 75 m.p.h. The Pennsylvania railroad also ordered 100 new four-motor multiple-unit cars. These were to be used on its suburban 11,000-v. alternating-current electrified lines operating from Philadelphia. The Reading railroad ordered 10 cars for its Philadelphia electrified lines and the Long Island railroad ordered 50 double-deck multiple-unit cars.

Another significant development in heavy electric traction was signalized by the Pennsylvania railroad's order for four 5,000 h.p. straight electric locomotives operating from an 11,000-v. single-phase A.C. trolley wire. Each of these four new locomotives was to have two cabs. Various running gear arrangements were to be employed. Two of the locomotives were to be equipped with four simple, swing-bolster, two-axle swivel trucks having 48-in. wheels and a loading of 60,000 lb. per axle. One locomotive was to be equipped with six two-axle swivel trucks having 42-in. wheels and a loading of 45,000 lb. per axle. The fourth locomotive was to be equipped with four three-axle swivel trucks having 42-in. wheels and a loading of 45,000 lb. per axle. In each case, all axles were to be motor-driven. (*See* also RAILWAYS.)
(J. A. MI.)

ELECTRONICS. The science and practice of electronics had become an established part of the field of electrical physics and engineering, and it was therefore to be expected that it was the application and development of existing knowledge rather than any startling new discoveries that characterized progress in 1949. An indication of the wide-spread interest and development in this field was given by the number of exhibitions and conferences that were held at which electronic operating and measuring apparatus was demonstrated and discussed. There was also a noteworthy number of monographs and textbooks published describing various phases of the subject. On the fundamental scientific side, steady research was in progress with a view to obtaining a better understanding of the structure of materials which might be used for a variety of purposes. The investigation of the properties of various synthetic ferro-magnetic materials was already producing noteworthy economies in the use of cores for coils and transformers for certain purposes; and corresponding research on the properties of semi-conductors was being pursued with great interest.

Other work was concerned with the properties of phosphors and photo-electrically sensitive materials. Some of these resulted in the development of the infra-red image converter tube, by the aid of which an object which emits or reflects invisible infra-red radiation can be seen with the naked eye by the image formed on a fluorescent screen. Such devices were used during World War II for detecting fixed or moving objects which were flood-lit by a source of infra-red radiation; but they were also used for observing objects which are themselves sources of the requisite invisible radiation. The use of optical pyrometric methods at temperatures below visible red heat was made possible with the aid of the image converter tube; and in another sphere, these instruments were used for observing rats in the dark in the course of an investigation of the spread of typhus, and also for studying the behaviour of malaria-bearing mosquitoes in the dark or over water. More elaborate equipment comprising a lead-suphide cell at the focus of a parabolic mirror was used for detecting ships and aircraft at ranges up to 12 mi. with an accuracy of location better than one-tenth of a degree.

There was much interest in both scientific and industrial fields in the application of electronic methods to automatic computing machines. These were in general of two types, for analogue and digital computing respectively, and each had its own sphere of usefulness. The digital principle with its capacious "memory" based on supersonic delay lines, storage on the screen of a cathode ray tube, or on a magnetic drum, had a very wide range of application, very great speed

and could give any desired accuracy. Use of the analogue principle resulted in somewhat lower accuracy and a lower degree of flexibility; but its economy and the relative small size and weight were of value in some fields of application. Although it remained to be seen which of the various forms of each type undergoing development would prove to be the best, it was clear that the larger types of electronic digital computer would open up new fields of pure and applied science; for they would, for the first time, make practicable the solution of problems that would otherwise need a prohibitive time for their calculation.

The high speed and low inertia of an electron stream made the modern electronic valve very suitable for measuring and recording short periods of time, and several instruments were developed which combined robustness with reliability and accuracy of operation. One such instrument, described as an electronic stop-clock, was capable of timing intervals up to 12 sec. to an accuracy of better than one-hundredth of a second. It was in effect a combination of a high-speed mechanical counter and thyratron trigger circuits, a valve oscillator being used as a frequency or time standard. A similar instrument, termed a microsecond counter chronometer, was used for the accurate measurement of speeds such as those of projectiles or aircraft. It consisted essentially of an oscillator whose frequency was accurately controlled, an electronic gate and six electronic decade counters. To use the instrument the gate is shut and all the decades are set to zero. On receipt of a starting pulse, the gate opens and the decades begin to count individual cycles of the oscillator. When a stop pulse is received, the gate shuts leaving an indication on the counters of the time that elapsed between the pulses. With a standard frequency of one megacycle per second, time intervals from one microsecond to one second could be measured to within one part in ten thousand; and by using lower oscillator frequencies, the timing range might be extended as required.

Another instrument using a quartz crystal oscillator as its source was developed and used for rating watches, a microphone being used to pick up the ticks of the watch and record these together with impulses from the standard oscillator on a paper chart driven at a known constant rate from the same oscillator. One of the interesting features of this instrument was that it not only recorded the number of seconds per day the watch was gaining or losing, but it also indicated faults such as an irregularity in the beat or a damaged tooth on the escapement wheel.

Various instruments for measuring the moisture content of loose samples such as grain were available, as was also one for checking the moisture content in timber, which might be undergoing drying or rapid seasoning by an electronic method. A novel application of the latter technique was the production of a high-frequency heater for drying and treating grass in a form most suitable for livestock consumption. The use of dielectric heating ensured that the full nutritive value of the grass was maintained, for it was kept considerably higher in protein and carotin content than grass treated by any other process. Another type of instrument which passed from the stage of experiment to that of industrial use was concerned with such applications as the location of metal in timber for use in saw mills, or the detection of metal particles in foodstuffs and pharmaceutical products. (R. L. S-R.)

United States. A number of developments in the field of electronics, employing adaptations of techniques devised during World War II, were announced in 1949. One of these was an "atomic clock," of which details were published by the National Bureau of Standards, where the new instrument was constructed.

The rotating Earth provides the basic time standard, but from the time of Christiaan Huygens, who first applied it to a practical clock about 1670, the pendulum has been the principal secondary standard of timekeeping. In recent years, however, oscillating crystals of quartz had provided an accurate constant frequency of vibration that might be used to control the operation of clocks. The new device utilized vibrations of atoms in the ammonia molecule. It promised to surpass by one or two orders of magnitude the accuracy of the Earth itself, which is subject to a gradual slowing down from tidal friction as well as sudden irregular variations due to causes that had not been fully explained.

The atomic clock was said to provide a time constancy of 1 part in 10 million (equivalent to about three seconds per year), while it was theoretically capable of 1 part in 1,000 million or even 10,000 million.

A physicist at the Bell Telephone laboratories, Dr. A. V. Hollenberg, described a new method of amplifying radio-frequency signals in a vacuum tube. The experimental device which employed this method was called a "double-stream amplifier." A cylindrical stream of electrons travelled down a tube more than a foot long. This stream was enveloped by another slightly larger stream, travelling in the same direction but more slowly. The two streams passed through a wire helix from which the signal to be amplified was impressed upon them. As they progressed there was interaction between them, causing amplification of the signal, which was taken out as they passed through another helix at the other end of the tube. Another helical coil, surrounding the tube, guided the two electron streams. The method was particularly suitable for amplifying signals of high frequency, *i.e.*, of short wavelength. The more wavelengths there were in the amplifying region, the greater was the gain.

A method analogous to radar, using reflections of high-frequency sound waves (above the audible range) rather than radio pulses, showed promise of helping surgeons to locate gallstones, or foreign matter such as bullets, shell fragments and glass or wooden splinters in the body, it was announced by Dr. George D. Ludwig of the Naval Research Medical institute in Washington, D.C. He developed the new technique on an experimental basis in collaboration with the Harrison Department of Research Surgery, at the University of Pennsylvania.

In recent years there had been great interest in methods of recording sound magnetically on wires, tapes and discs, though its applications seemed limited because the only method of making duplicates was by playing back one tape or wire, and re-recording it on another. Marvin Camras, physicist of the Armour Research foundation of the Illinois Institute of Technology, announced to the National Electronics conference a duplicating method which was analogous to contact printing in photography. It worked most satisfactorily, he said, with records on magnetic tape, though satisfactory duplications of wire recordings had been made in his laboratory.

He explained that the master record was made on a tape of high coercive force, that is, one that was not easily harmed by passage through another magnetic field. The blank copy tape, placed in contact with the master, was passed through a high frequency magnetic field, where it became magnetized itself. This was in exact correspondence with the master, which retained its own record. Copying might be done at many times the speed at which the tape was played, and the copy had negligible loss of fidelity. With a tape on which several records were made side by side in parallel lines of magnetization, all channels might be copied at once.

Dr. James D. Cobine, of the General Electric Research laboratory, told a Conference on Gaseous Electronic held in Pittsburgh of an "electronic torch" hot enough to melt tungsten, most refractory of the elements, with a melting point of 3,370°C. By means of a magnetron oscillator, radio

waves with a frequency of 1,000 million cycles per second were produced. These were fed to an antenna, consisting of two concentric metal cylinders, at the end of which a high-frequency arc could be formed. As various gases were fed past the arc, a long jet of flame was produced. Some of these were extremely hot, while others were so cool that the finger was not burned if held in the flame.

Hot flames were produced with a gas like nitrogen, which consisted of molecules made of two atoms. The arc broke them into their constituent atoms, but when they struck a surface they recombined, giving off heat. Helium and argon, however, normally consist only of single atoms. Since they could not be broken and reunited, they yielded a relatively cool flame. The electronic torch was still in the experimental stage, and its commercial possibilities had not been explored.

(J. STO.)

ELIZABETH, PRINCESS, DUCHESS OF EDINBURGH, the heiress-presumptive to the British throne (b. London, April 21, 1926), accompanied the King, Queen and Princess Margaret on a state visit to the Union of South Africa in the early months of 1947. She married Prince Philip, Duke of Edinburgh, on Nov. 20, 1947, and on Nov. 14, 1948, gave birth to a son, Prince Charles Philip Arthur George.



Princess Elizabeth, followed by Prince Philip, arriving at the reception at County hall, Westminster, July 14, 1949, to commemorate the golden jubilee of the London County council.

In March 1949 she visited Edinburgh where Lord Linlithgow, chancellor of the university, bestowed on her the honorary degree of doctor of laws. During the same visit Prince Philip received the freedom of Edinburgh. At the end of April Prince Philip was installed as chancellor of the University of Wales, and Princess Elizabeth received from him the honorary degree of doctor of music. They afterwards toured Merionethshire, the county of the Duke's second title. In May they visited Birmingham. With Prince Philip she paid an official visit to Northern Ireland in May and at Belfast was given the freedom of the city. From June 21 to 24 they visited the Islands of Alderney, Guernsey, Sark and Jersey and in the following week the midlands. At Nottingham they were present at the celebration of the 500th anniversary of the granting of the city's first civic charter by Henry VI and on June 29 the Princess laid the foundation stone of the Portland training college for the disabled, Mansfield. From July 26 to 28 they visited many towns in the west riding of Yorkshire. Princess Elizabeth visited Devon and Cornwall in October and in Plymouth unveiled a stone to mark the beginning of the restoration of St. Andrew's church. On Nov. 20 she flew to Malta where Prince Philip was based while serving in H.M.S. " Chequers." In Malta she attended the re-hallowing service at St. Paul's Anglican cathedral and unveiled new panels on the Malta war memorial.

EL SALVADOR: *see* SALVADOR, EL.

EMPLOYMENT. At the end of Sept. 1949 the number of persons in civil employment in Great Britain (excluding Northern Ireland) was 22,230,000, as compared with 22,011,000 in January. The number in the armed forces was 746,000, as compared with 808,000. Those in civil employment included 15,122,000 males and 7,108,000 females, as against 15,019,000 and 6,992,000 at the beginning of the year. The numbers unemployed, including those temporarily stopped, were 375,713 in January and 300,255 in Oct. 1949. The great majority of these were not on any firm's books or were only casually employed: few regularly employed workers were temporarily stopped. The amount of unemployment was low in all cases: it was highest in Wales (3·9%) and Scotland (2·8%) and lowest in the north midland (0·4%) and midland (0·6%) regions. In London it was about 1%. Of the total, only 121,582 had been unemployed for more than eight weeks and of these 20,000 were in Wales and nearly 29,000 in Scotland. The unemployed total was made up of 220,000 males and 80,000 females. The towns outside London with the most unemployment were Liverpool and Glasgow. These figures indicated a continuing situation of full employment except for a few areas in which exceptional unemployment existed on a small scale. These were certain ports and shipbuilding centres and some regions in which the openings for employment were ill-balanced in relation to the available supplies of workers; *e.g.*, coalfields and heavy industry areas with a deficiency of lighter trades. There were indeed a number of industries which were still markedly short of labour, notably coal-mining and textiles.

Shifts of manpower from industry to industry were small. Table I shows employment in the main groups in June 1948 (the earliest date for which figures were available on the revised basis which precluded comparison with earlier periods) and in Sept. 1949. Table II shows the break-up for a number of the most important industries grouped under " Manufacturing " in Table I. It will be seen that the only big shift was towards distribution, which had not yet regained its prewar manpower. Among manufacturing industries, there

TABLE I.—DISTRIBUTION OF MANPOWER IN GREAT BRITAIN
(in thousands)

	June 1948	Sept. 1949
His Majesty's forces	846	746
" " " (on release leave)	92	21
Agriculture, forestry and fishing	1,268	1,276
Mining and quarrying	869	857
Manufacturing	8,114	8,311
Building and contracting	1,497	1,497
Gas, electricity and water	296	312
Transport and communication	1,814	1,815
Distribution	2,689	2,788
Professional, financial and other services	3,925	3,915
National government administration	688	677
Local government administration	766	782
Unemployed	282	281
Total	21,926	22,230

was a decline in shipbuilding, whereas there were significant increases in cotton, boots, other clothing, food, printing, chemicals and the vehicle trades. These changes did not reflect the efforts to shift more manpower into the export trades after the devaluation of sterling.

TABLE II.—EMPLOYMENT IN CERTAIN MANUFACTURING INDUSTRIES
(in thousands)

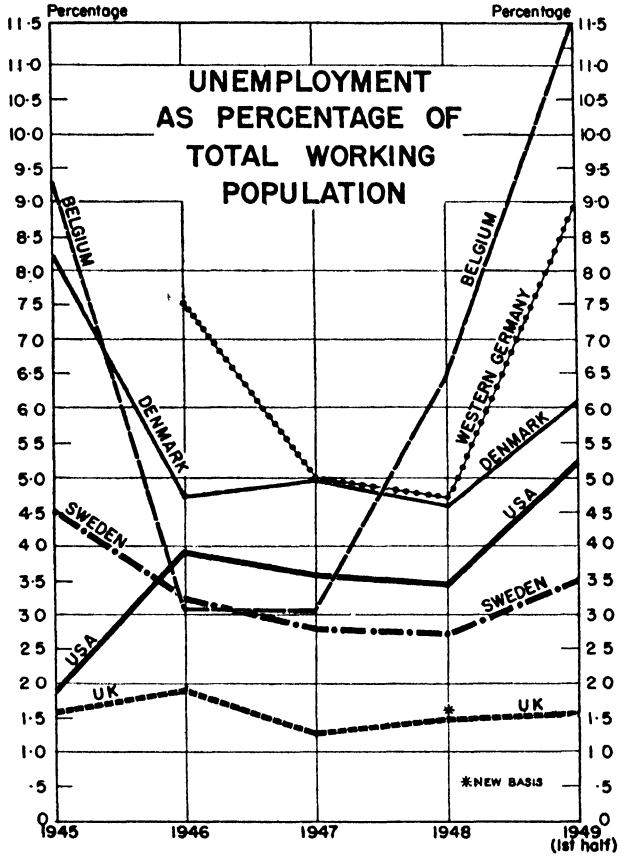
	June 1948	Sept. 1949
Metal manufacture	496	494
Shipbuilding	226	210
General engineering	665	669
Electrical trades	514	505
Vehicles	879	900
Cotton	309	323
Woollen and worsted	205	214
Boots and shoes	138	155
Other clothing	484	517
Food and drink	644	686
Printing and paper	464	488
Chemicals	421	441

In a situation of full employment, with many trades in search of additional supplies of suitable labour, mobility was bound to be low; and mobility involving geographical shifting was seriously reduced by the universal housing shortage. In a few industries (coal-mining and agriculture), workers, though free to change jobs within the industry, were prevented from leaving it until the Control of Engagement order was relaxed on Jan. 1, 1950. Elsewhere, movement was practically free, and the government made little use of its power to direct labour into jobs in which it was urgently needed. The employment exchanges attempted to induce workers to go into under-manned occupations; and after devaluation control was strengthened by offering applicants a narrower choice of jobs than previously. There was strong feeling against compulsion except in the last resort; but attention was paid to increasing the inducements to movement by offering improved allowances to meet the costs of moving homes as well as by improved facilities for training in alternative trades.

There were many statements by certain economists that Great Britain was in a state of "overfull" employment and that the only way of restoring adequate mobility was to reduce the number of available jobs by deflationary pressure. This view was strongly combated by the government and by the trade unions, who contended that the shifts required were small and were being brought about at a reasonably satisfactory rate by existing methods. In coal-mining, for example, though the intake of juveniles was admittedly too small, much was done by upgrading of workers to the face to make better use of a reduced labour force; and in both mining and cotton it was difficult to induce a large flow of new entrants in face of the knowledge that within a few years higher mechanization might considerably reduce demand for labour.

Although total shifts between industries were generally fairly small, there was in many occupations a rather high rate of turnover. Where this was analysed, it appeared to be due largely to a "floating" section of about 10 or 15% of the employed labour force, mostly less skilled workers, who moved rapidly from one job to another, often within an industry, whereas the main body of employment was fairly stable. There was naturally a higher rate of turnover among women than among men, largely because more married women continued at work than before but were less regularly available than other workers, and in many instances would accept only part-time employment.

The total working force of Great Britain was fairly stable in 1949. There was a shortage of juveniles, owing to the raising of the school-leaving age to 15 and to increased higher education; but this was met by adjustments of work.



The average age of the labour force was rising, and would continue to rise; and the shortage of workers encouraged many old-age pensioners to remain in employment. The older workers did not appear to be more prone than others to lose their jobs but, when they did, found it harder to enter new employment, especially where a shift of home or trade was involved.

Full employment naturally puts the worker in a strong position, not so much in wage-bargaining through the trade unions (which for national reasons refrain from pressing their advantage) but for picking jobs and standing out against any discipline felt to be unduly hard. One effect of this was a steady, though not very rapid growth of schemes of joint consultation in factories: another was a change in the attitude of foremen and supervisors and in the qualities and training considered needful for supervisory posts. There was also more emphasis on human aspects of management and more recognition of the need for personnel officers and for the training of higher management in the problems of "human relations." In general, however, workers in the factories, as well as the trade unions at higher levels, refrained from pushing their advantages to the full, and loss of production through stoppages of work, official or unofficial, was remarkably small. (*See* TRADE UNIONS and WAGES AND HOURS.)

So far, it had been unnecessary, except in a few areas, for the government to take special measures for the prevention of either unemployment or under-employment, except by ensuring an absence of deflationary pressures that would satisfy the demands of right-wing economists. The recession in the United States early in 1949 caused some pockets of unemployment to appear in Great Britain; but not on a large scale because there was enough unsatisfied demand in the home and soft currency markets to take up the slack.

A serious American depression would, however, seriously react on the level of British employment because a fall of exports (or a decrease in Marshall Aid) would make it difficult to import the materials on which employment depends. (G. D. H. C.)

United States. The civilian labour force (persons not in the armed forces and available for employment) numbered 63,637,000 in Aug. 1949, a gain of 451,000 over Aug. 1948. The labour force reached its maximum, for the first eight months of 1949, during July, when 63,815,000 workers were available. The unemployment figure in Aug. 1949 was 3,689,000 as compared with 1,941,000 in Aug. 1948.

Males in the civilian labour force numbered 45,163,000 in Aug. 1949 as against 45,215,000 in the same month of 1948. Females numbered 18,474,000 as compared with 17,971,000 in Aug. 1948.

Employees in non-agricultural establishments numbered 43,027,000 in Aug. 1949, a decrease of 1,467,000 from Aug. 1948. During the year there were decreases in every area of non-agricultural employment except finance and government (Table III). In these latter areas there was an increase from 7,275,000 workers to 7,595,000 during the period. The largest decrease occurred in manufacturing, where employment in Aug. 1949 fell to the level of 14,088,000 workers as compared with 15,400,000 in Aug. 1948.

TABLE III.—NUMBER OF EMPLOYEES* IN NON-AGRICULTURAL ESTABLISHMENTS, BY INDUSTRY DIVISION, UNITED STATES (estimated)
(In thousands)

Industry division	Aug 1949	July 1949	June 1949	Aug. 1948
Total estimated employment	43,027	42,535	42,792	44,494
Mining	968	494	970	1,006
Contract construction	2,333	2,279	2,205	2,384
Manufacturing	14,088	13,755	13,885	15,400
Transportation and public utilities	4,000	4,014	4,030	4,213
Trade	9,212	9,205	9,327	9,366
Finance	1,780	1,782	1,774	1,742
Service	4,831	4,845	4,829	4,850
Government	5,815	5,707	5,772	5,533

* Estimates include all full- and part-time wage and salaried workers in non-agricultural establishments who worked or received pay during the period ending nearest the 15th of the month. Proprietors, self-employed persons, domestic servants and personnel of the armed forces are excluded. These estimates have been carried forward from 1947 bench-mark levels.
SOURCE United States Bureau of Statistics, *Monthly Labour Review*

Production worker employment decreased in every one of the major manufacturing industries in the United States during the period July 1948 to July 1949.

Pay roll indexes of production workers showed a decrease from July 1949 to May 1949 in all areas except two. They increased in both transportation equipment (except automobiles) and in printing, publishing and allied industries. The figures beyond May 1949 were not available at the close of 1949, because of extensive revisions being undertaken by the bureau of labour statistics.

The durable goods index of production worker employment fell from 185·0 in July 1948 to 162·4 in July 1949; the non-durable goods index fell from 137·7 to 128·6 in the same period (1939=100).

Australia. The Australian general employment index (1939=100) averaged 137·0 for 1948 and 140·0 for the first quarter of 1949. The industrial employment index averaged 157·9 for 1948 (1937=100) and 160·5 for the first quarter of 1949.

Canada. The general employment index (1937=100) averaged 171·6 for 1948 and 163·6 for the first quarter of 1949. The Canadian industrial employment index averaged 179·2 in 1948 (1937=100) compared with 177·3 for the first quarter of 1949.

France. The French industrial employment index averaged 110·3 in 1948 (1937=100). The general employment index averaged 107·7 (1937=100) in the same year.

TABLE IV.—NUMBER OF PRODUCTION WORKERS AND INDEXES OF PRODUCTION-WORKER EMPLOYMENT AND PAY ROLLS IN MANUFACTURING INDUSTRIES, BY MAJOR INDUSTRY GROUP, UNITED STATES*
(Aug 1949 and Aug. 1948)

	Number of production workers (000 estimated)		Production worker Indexes (1939=100)		Pay Roll Indexes (1939=100)	
Industry group	July 1949	July 1948	July 1949	July 1948	May* 1949	July 1948
All manufacturing	11,754	12,987	143·5	158·5	329 4	360·0
Durable goods	5,864	6,681	162·4	185·0	367 2	403·0
Non-durable goods	5,890	6,306	128·6	137·7	292·4	318·0
Iron, steel, their products	1,380	1,601	139·1	161·4	306·6	336·9
Electrical machinery	451	535	173 9	206·6	386·0	436·3
Machinery, except electrical	970	1,209	183·5	228·8	406 8	473·6
Transportation equipment, except automobiles	412	430	259 6	270·6	570·2	552·4
Automobiles	778	787	193·5	195·5	394·5	423 3
Non-ferrous metals and products	325	388	141·7	169·2	316·1	360·6
Lumber and timber basic products	734	829	174·5	197·3	452·3	502·9
Furniture and finished lumber products	406	452	123·9	137·8	296·1	320·4
Stone, clay and clay products	408	450	139·2	153·2	321 5	334·2
Textile-mill products and other fibre manufactures	1,044	1,243	91·3	108·7	233·6	285·4
Apparel and other finished textile products	1,062	1,070	134·5	135·6	283 3	303·6
Leather and leather products	356	375	102·6	108 1	209·6	236·5
Food	1,319	1,364	154 4	159·7	316·5	352·2
Tobacco manufactures	82	83	87·9	88·8	196·0	205·5
Paper and allied products	366	388	138·1	146·1	316·3	341·7
Printing, publishing and allied industries	427	430	130·1	131·1	277·3	260·1
Chemicals and allied products	522	567	181·0	196·6	425·9	432·7
Products of petroleum and coal	163	170	154·2	160·7	343·8	353·4
Rubber products	169	191	140·0	157 7	294·5	329·7
Miscellaneous industries	380	425	155·3	173·9	350·9	375·0

* The figures beyond May 1949 were unavailable at the close of the year, because of extensive revisions being undertaken by the bureau of labour statistics
SOURCE. United States Bureau of Labour Statistics, *Monthly Labour Review.*

Norway. The industrial employment index for 1948 (1937=100) averaged 133·3 and averaged 138·1 for the first quarter of 1949. The general employment index was 106·9 on the average in 1948 and 108·5 for the first quarter of 1949.

South Africa, Union of. The general employment index (1937=100) averaged 128·6 for 1948 and 130·7 for the first quarter of 1949. The industrial employment index averaged 156·1 for 1948 (1937=100) and 160·9 for the first quarter of 1949.

South America. Argentina's index of industrial employment (1937=100) averaged 146·9 for 1947, which was the latest available figure at the close of 1949. The Chilean industrial employment index (1937=100) averaged 134·0 for 1948.

Sweden. The Swedish industrial employment index for 1948 (1937=100) averaged 125·5 and averaged 126·2 for the first quarter of 1949.

Switzerland. The industrial employment index for 1948 averaged 135·0 (1937=100).
(*See* also BUSINESS REVIEW.) (P. TA.)

ENDOCRINOLOGY. By far the most notable advance in endocrinology during 1949 was the discovery that rheumatoid arthritis and certain other chronic diseases of

obscure ætiology could be controlled by the administration of one of the steroid hormones of the adrenal cortex or by stimulating the gland to secrete that hormone.

It was known, from previous work with animals, that many types of stress (*e.g.*, cold and heat, noxious drugs and infections, overwork and anoxia) are followed by adrenal cortical hypertrophy and evidences of an increased production of adrenal hormones. This reaction is brought about by the stress stimulus acting in an unknown manner to signal the central nervous system. The signal is then relayed to the anterior pituitary gland causing a release of adrenocorticotrophic hormone (ACTH), which is the specific stimulator of the adrenal cortex. Under the influence of a sudden outpouring of ACTH, morphological and chemical changes occur in the adrenal cortex, leading to an increased production of the adrenal steroid hormones. These steroids enable the organism to combat or adjust itself to the stress and to survive. The adrenalectomized animal, which is unable to carry through the described mechanism, succumbs to environmental or internal stresses which the normal animal can withstand. Hence, this complex system consisting of neurological pathways and hormonal relays seems to constitute a vital self-corrective or homeostatic mechanism for the adaptation of the living organism to threatening environmental or internal influences, which may otherwise have catastrophic consequences.

The adrenal cortical steroids which are effective against stress are the group of C_{11} oxysteroids (Compounds A, B, E and F of E. C. Kendall). Because of their important effects on certain aspects of carbohydrate metabolism, they were sometimes called glucocorticoids. But their precise mode of action in facilitating adaptation to stress was not known at the end of 1949. However, H Selye and others who contributed much of the above knowledge studied the phenomenon of adaptation and reported certain evidence which might indicate the role of the various adrenal cortical steroids. It was postulated that some chronic disorders might be expressions of an inadequate or unbalanced reaction of the adrenal cortex to past or continuing stresses and that certain types of hypertension, vascular disorders and arthritis might be considered to be " diseases of adaptation."

During 1949 it was shown that Compound E or Cortisone and ACTH administration was equally efficacious in suppressing the symptoms and signs of rheumatoid arthritis. ACTH or Cortisone, or both, were also tested in many other acute and chronic disorders such as rheumatic fever, psoriasis, lupus, various allergies, etc. While it was too early to judge accurately, it would seem that the C_{11} steroids are able to suppress the overt manifestations of many seemingly unrelated diseases. It also appeared that, with the aid of these steroids, the tissues of the body acquire an increased capacity to " resist " pathological changes. (*See* ARTHRITIS.)

Pituitary. The supply of the protein hormones for experimental and clinical purposes continued to be limited by the fact that they had to be prepared by extraction and purification, from the respective glands removed from the meat-producting animals (bulls, sheep, pigs, etc.). The precise structure of any protein was still almost completely unknown. Synthesis from constituent amino acids seemed beyond immediate possibility. With the exception of thyroxine, the protein hormones do not seem to possess an " active " non-protein group. However, C. H. Li and H. M. Evans showed that a reasonably small peptide, which resulted from enzymatic hydrolysis of purified ACTH, has the full physiological activity of the complete protein. This peptide consists most probably of 6-7 amino acids. If the structural pattern could be determined, it would open up the possibility of a partial synthesis of an ACTH-like substance. The significance of such an event would be great, both from its practical aspect and from its bearing on the relation between chemical structure and physiological function of the other protein hormones.

Pancreas. The intense development of tissue enzyme chemistry had led to the general expectation that hormones which affect the metabolism of foodstuffs would be found to do so by increasing or decreasing rates of particular intermediary reactions. For this reason the location of the action of insulin was looked for in some known enzymatic reaction concerned with glucose phosphorylation or its deposition as glycogen. Despite intensive research in this direction the results were not rewarding in 1949. A somewhat different approach was suggested by the work of R. Levine and others. They observed that insulin lowered the level of galactose in the body fluids when this sugar was given to eviscerated animals from which the kidneys were also removed. Such experimental preparations cannot metabolize galactose, for their tissues do not possess the necessary enzymes. The effect of insulin was, therefore, interpreted to mean that this hormone in some way increased the rate at which galactose entered the cell interior through the cell membrane. It seemed reasonable to assume that the action of insulin on glucose is of the same nature. If this is so, the hormone does not exert an action on any of the enzymes of glucose metabolism but makes glucose more freely available to them. (*See* also DIABETES; PHYSIOLOGY.) (RA. L.; S. SO.)

ENGINEERING: *see* AIRCRAFT MANUFACTURE; BRIDGES; BUILDING AND CONSTRUCTION INDUSTRY; CANALS AND INLAND WATERWAYS; COAL; DOCKS AND HARBOURS; ELECTRICAL INDUSTRIES; ELECTRIC POWER; ELECTRIC TRANSPORT; ELECTRONICS; FLOODS AND FLOOD CONTROL; GAS; IRON AND STEEL; JET PROPULSION AND GAS TURBINES; MACHINERY AND MACHINE TOOLS; MOTOR CYCLE AND CYCLE INDUSTRY; MOTOR INDUSTRY; RADIO, SCIENTIFIC DEVELOPMENTS IN; RAILWAYS; ROADS; SEWERAGE; SHIPBUILDING; TELEGRAPHY; TELEPHONE; TELEVISION; TEXTILE INDUSTRY; TUNNELS; WATER SUPPLY.

ENGLAND: *see* GREAT BRITAIN AND NORTHERN IRELAND, UNITED KINGDOM OF.

ENGLISH LITERATURE. In English literature during 1949 Winston Churchill loomed large, partly because his spell-binding qualities brought new lustre to events still fresh in most readers' memories. His concise, forcible English, his feeling for words and his mastery of narration spoke their own eloquent testimony in the second volume of his memoirs of World War II, *Their Finest Hour*, which was as much a self-portrait as a history of the " blood, toil, tears and sweat " phase of the war. If Winston Churchill was the outstanding natural example of the man of action who was also a man of letters, the experience of war sharpened the perception and descriptive gifts of some younger men called from peaceful pursuits to battle in remote places. Colonel Spencer Chapman had certain advantages in his fight to organize resistance in Japanese-occupied Malaya. He had been exploring with Gino Watkins and had had some opportunity to measure his strength and endurance away from civilization. These resources were taxed hard in the Malayan interior, but *The Jungle is Neutral*, one of the best of all war books, made plain the recuperative powers of the human spirit in times of stress. Eric Williams was another who did not lack resource in unfamiliar surroundings, and *The Wooden Horse*, the story of his escape from Stalag Luft III, by means of a tunnel scraped from the earth under the cover of a wooden vaulting horse, caught the peacetime imagination because it was an astonishingly spectacular story, superbly told. In 1943, Brigadier Fitzroy Maclean was appointed Churchill's " daring ambassador-leader " to the guerillas of Yugoslavia, and

Eastern Approaches, his remarkable record of personal achievement, included accounts of his diplomatic stay and wanderings in prewar Russia as well as of his mission to Yugoslavia.

The first volume of *The Oxford History of English Art*, a survey to be issued in 11 volumes under the editorship of T. S. R. Boase, president of Magdalen, made a welcome appearance. This volume (V), which appeared out of chronological sequence, was written by Dr. Joan Evans and was devoted to the years 1307-1461. Lectures given during his first year as Slade Professor to the University of Oxford formed the basis of Sir Kenneth Clark's *Landscape into Art*, which was concerned with the development of landscape painting as " the chief artistic creation of the 19th century." Arthur M. Hind issued the second part of his great critical catalogue of *Early Italian Engraving* (the earlier part was published in 1938) and thus completed a task that occupied some 40 years of his life and one that would earn the gratitude of all students of Italian art; and with *Late Saxon and Viking Art*, T. D. Kendrick completed his informative and scholarly two-volume survey of the art of the Anglo-Saxons.

Other learned minds, too, were engaged in revealing the past. O. G. S. Crawford explored the *Topography of Roman Scotland; North of the Antonine Wall* with an observant eye for country and for history. Early Scottish history in the light of added knowledge during the past 60 years was the subject of a number of essays written by the late Professor H. M. Chadwick, which, prepared and edited by his wife, were published as *Early Scotland;* and Dr. M. Cary surveyed the geography of the Mediterranean lands in relation to ancient history in *The Geographic Background of Greek and Roman History.*

Advances in English historical scholarship induced more and more specialization, so that books tended to concentrate on briefer periods or certain aspects of short periods. But Douglas Jerrold, undeterred by a formidable task and fortified by some years of preparation, produced a one-volume *Introduction to the History of England*, which began with prehistoric man and went down to the loss of Normandy in 1204. Among the specialists, Professor J. E. Neale devoted his great knowledge of the Elizabethan period to a study of *The Elizabethan House of Commons.* Professor Herbert Butterfield, who also published two other important books—one on the relationship of Christianity and history, the other on the origins of science—described in *George III, Lord North and the People* how Lord North's ministry, then struggling with the American colonies, reached a particularly critical phase in 1779; and Professor B. Wilkinson issued the first volume of his new documentary *Constitutional History of England, 1216-1399* which went up to the year 1307.

Two other eminent historians gathered together some important papers. Dr. G. M. Trevelyan issued his *Autobiography and Other Essays*, and Dr. G. P. Gooch's *Studies in German History* collected 12 papers, separate in period and subject, but unified inasmuch as they illustrated the various phases of German history through more than four centuries —from the Reformation to the eve of World War II. Events leading up to the catastrophe were clarified by the publication of several volumes of *Documents on British Foreign Policy, 1919-39*, edited by Professor E. L. Woodward and Rohan Butler, and by Elizabeth Wiskemann's history of the relations between Hitler and Mussolini, *Rome-Berlin Axis.*

An earlier episode in German affairs was recalled by the posthumous publication of *Two Memoirs* by Lord Keynes, for the first of these essays (the other was concerned with beliefs held by himself and some of his friends at the beginning of the century) told the story of Keynes's attempts to persuade the Allied Powers to lift the food blockade on Germany and central Europe which had been prolonged after the Armistice. Dr. Chaim Weizmann, Israel's first president, also had his share in great and sometimes tragic events. His autobiography, *Trial and Error*, was as much the story of Zionism as of his own life.

Laughter in the Next Room, the fourth volume of Sir Osbert Sitwell's delightful autobiographical sequence, *Left Hand, Right Hand!* opened with a picture of Armistice night in London in 1918 and then roved over the after-war years, again giving due attention to the diverting oddities of his father's character.

The quirks, oddities and reputations of some of the Victorians received their share of attention from the biographers. There were two interesting portraits of Ruskin —the late Derrick Leon's studious *Ruskin: the Great Victorian* (written before the publication in 1948 of Admiral Sir William James's book on the correspondence relating to the marriage with Effie Gray), and Peter Quennell's admirably lucid and objective *John Ruskin, 1819-1900.* Rossetti, too, was twice presented. Helen Rossetti Angeli's *Dante Gabriel Rossetti* was written in order to remove some misconceptions concerning Rossetti's life and character and his relations with his friends and fellow artists; Professor Oswald Doughty's *A Victorian Romantic: Dante Gabriel Rossetti* was a painstaking study which made plain the complex personality of the poet and artist.

Sir Charles Tennyson used family letters and papers to illumine some obscurities and personal problems in the life of his illustrious grandfather, *Alfred Tennyson;* Hesketh Pearson, encouraged by Bernard Shaw, turned to the character and career of *Dickens*, examining the books and noting what was biographically revealing; Christabel Maxwell, granddaughter of Mrs. Margaret Gatty and niece of Mrs. Juliana Ewing, charmingly portrayed those gifted writers for children against their family background in *Mrs. Gatty and Mrs. Ewing;* and Roger Fulford's *The Prince Consort* emphasized Albert's personal contribution to the increase in the political powers of the crown during the middle years of the 19th century, as well as his interest in his family affairs.

Some of these biographers had access to hitherto unpublished material but few had at their disposal so rich and exciting a hoard as that made available to the Marchesa Origo for her absorbing account of Byron's love affair with Teresa Guiccioli—*The Last Attachment.* These papers included 149 of Byron's love letters, mostly in Italian, to Teresa, some of her answers, her unpublished account of his life in Italy—*Vie de Lord Byron*—and other relevant documents. In contrast Harold Nicolson acknowledged that his life of *Benjamin Constant*, the author of *Adolphe* and lover of Madame de Stael, contained scarcely any material which had not been published previously, but it was, nevertheless, a balanced, lively portrait which most successfully related the man to his times. Achievement in the political sphere was the central theme of I. Deutscher's documented and balanced biography of *Stalin*, which approached the Russian leader as an outstanding figure in contemporary world history, and carefully analysed the nature of his achievement and his place in the history of the revolution. A new volume brought that invaluable work of reference the *Dictionary of National Biography* up to 1940.

Few Englishmen had greater opportunity to know the innermost problems facing Britain's universities than Sir Walter Moberly who, since 1935, was chairman of the University Grants committee. Faced with a breakdown of western values, he claimed in *The Crisis in the University* that it was the responsibility of the universities to give their students a philosophy of life and that, unless our culture was to become wholly secular, that philosophy must be founded on Christian values.

Lord Russell formulated his own philosophy of politics in

the first series of Reith lectures broadcast by the B.B.C. and subsequently issued in book form under the title *Authority and the Individual.* Dr. A. A. Luce compiled a *Life of George Berkeley, Bishop of Cloyne,* and in addition, edited, in collaboration with Professor T. E. Jessop, the first volume of a series of that genial 18th century philosopher's *Works* which included his *Philosophical Commentaries, Essay Towards a New Theory of Vision* and *Theory of Vision Vindicated.* Another important philosophical work was M. H. Carré's *Phases of Thought in England* from the days of Bede to the Oxford Hegelians at the end of the 19th century.

The assessment of some familiar literary persons was continued by a band of scholarly critics and essayists. Dr. R. W. Chapman is one of Great Britain's leading authorities on Jane Austen, and his *Jane Austen: Facts and Problems* brought together some researches into various aspects of this peculiarly English novelist's life and work and her method of writing. Jane Austen also figured in *Poets and Story-Tellers,* a book of essays in which Lord David Cecil also gracefully and learnedly discoursed on John Webster, Fanny Burney, Ivan Turgenev, Virginia Woolf and others. Virginia Woolf found another admirable commentator in Dr. Bernard Blackstone, whose *Virginia Woolf* was an illuminating interpretation of her method as novelist and critic. Edwin Muir's diverse and discriminating critical gifts were displayed to some purpose in *Essays on Literature and Society,* which ranged from a study of the politics of King Lear to discussions of Friedrich Holderlin, Thomas Hardy and Franz Kafka; and Norman Ault shed some *New Light on Pope* with additional biographical material, facts about his quarrels and much bibliographical information. In *The Common Asphodel* Robert Graves collected his essays on poetry compiled between 1922 and 1949 and allowed the reader a view into the poet's workshop; and the story-teller's and playwright's workshop was partially illumined by Somerset Maugham's *A Writer's Notebook,* a book of jottings—plots for stories, anecdotes, impressions of people and places—culled from 15 stoutish notebooks which he kept over a period of some 50 years.

Novels. Although more than 200 new novels were issued each month, few indeed were works of distinct imagination or deserved to remain long in the memory. Aldous Huxley and George Orwell used their considerable talents to depict a scarifying future. Aldous Huxley's *Ape and Essence* pessimistically portrayed human society after a third world war had wrecked 20th century civilization; George Orwell's vision of society 34 years hence, *Nineteen Eighty-Four,* when Britain had become Airstrip One and the world was imagined as divided into three great states—Oceania, Eurasia and Eastasia —was scarcely more reassuring. Joyce Cary was more concerned with character and emotion in his *A Fearful Joy,* a swiftly paced narrative of a woman's eventful life which again exhibited the author's individual talent for depicting the exuberant and diverting sides of shady characters. H. E. Bates, Charles Morgan, Compton Mackenzie and Eric Linklater were seasoned novelists who chose, with varying degrees of success, to stay on more or less familiar ground. H. E. Bates's *The Jacaranda Tree* told of the reactions of a group of characters thrown together by circumstances—a car journey across Burma necessitated by the Japannes invasion of the country; in *The River Line,* in which an American visiting a former English companion on an escape journey during the war reconstructed his experience, Charles Morgan seemed overmuch concerned with the sensibilities of his characters; Compton Mackenzie returned to the Highlands, lairds, ladies and local colour with *Hunting the Fairies;* and Eric Linklater went back to Scotland's early days for a good-humoured frolic about giants, a poet and a princess—*A Spell for Old Bones.*

Rex Warner's allegory, *Men of Stones,* was concerned with the conflict between authority and freedom, and if his presentation of philosophic ideas was more successful than his portrayal of characters or emotions, his study was on the whole convincing enough. Tom Hopkinson chose another familiar theme—political escape from a totalitarian country—for his tale, *The Long Slide;* Malcolm Muggeridge's *Affairs of the Heart* made a deft and high-spirited affair of one literary man's investigations into the emotional entanglements of another (deceased); William Sansom turned from the short story to an impressive full-length study in jealousy, *The Body,* Nigel Balchin's *A Sort of Traitors* had a scientific background, but fell below, in interest and characterization, the standard of his *Small Back Room;* and Jocelyn Brooke's blend of reminiscence and reflection made *A Mine of Serpents* an agreeable and realistic account of a man's life.

Among the women, Elizabeth Bowen and Ivy Compton-Burnett are both the possessors of individual styles and talents. Elizabeth Bowen's *The Heat of the Day* was a story of a wartime love affair, with treason in the background, which brilliantly recreated the atmosphere of London in 1942; and the setting of Ivy Compton-Burnett's *Two Worlds and Their Ways* was a ramshackle country house some 50 years ago, and the main theme the sending to school of two children. Nancy Mitford's *Love in a Cold Climate* was a diverting portrayal of life and behaviour in high society. Emma Smith's *The Far Cry,* which was partly a keenly observed record of a 14-year-old child's travels in India with a pompous parent, suggested that when her natural gifts and ideas were fully integrated, she would produce a really interesting novel.

Among the short story writers Rhys Davies, in the title-piece to a collection called *Boy with a Trumpet,* showed that his gifts were not confined to tales about Wales and Welshmen; and William Plomer's *Four Countries* was a volume worthy of one who confessed the debt that he owed to Guy de Maupassant. (A Ck.)

Poetry. In spite of economic difficulties, 1949 was a year rich in poetry, for it saw the publication of collected poems of several established poets working in full maturity. The position, meanwhile, grew increasingly exacting for young and new poets, for the public refused, one might say almost absolutely, to buy their work. The Arts Council of Great Britain, to whose notice this situation had been brought, was trying to find a way in which it could help, without incurring the accusation of partisanship or selectiveness. Although many publishing houses preferred to put out an infrequent book of verse at a loss rather than be subsidized from official sources, it was agreed amongst all concerned that the public could be made more conscious of what poetry was being written today; and steps were taken to promote public readings, radio readings and other means towards the encouragement of poets.

In spite of these adverse conditions, the poets continued to produce good work. The general impression was that the younger generation, those who began to write during and after World War II, shared in common an outlook and philosophy that turned away from cynicism, the political pre-occupation, the class-bitterness of the 1930s. It was no exaggeration to suggest that a wave of new romanticism was rolling in, carrying hopes, simplicities, revivals of faith in individual effort and personality. It was significant that a first book by a newcomer, A. J. McGeoch, should be called *Annus Mirabilis.* From the poetic point of view, that truly describes the year which saw the appearance of Edith Sitwell's own selection of her poetry, including the marvellous, Cassandra-like war poetry that carried her name and fame throughout the English-speaking world. She spoke for the whole womanhood of Great Britain, indeed of the human

race, in those superb, desperate lyrics. Two other women poets produced notable books; Kathleen Raine, in *The Pythoness*, revealing in maturity of style her religious happiness in the face of today's social and moral problems, and Dorothy Una Ratcliffe in *Until the Dawn*, adding a most musical collection of Yorkshire songs to the wealth of English dialect poetry.

The outstanding collection of new poems was *The Labyrinth*, by Edwin Muir. Here was major poetry, simple, subtle, passionate and direct, like that of Edith Sitwell. Muir's former struggle with the time-spirit, once so interruptive of his music, was now resolved, and his new verse was full of serene beauty and charged with all the sadness and clarity which beauty conjures out of the confusions of everyday life. Another collection of new work from the poet laureate, John Masefield, added a characteristic chapter to his famous *Collected Poems; On the Hill* is the vision of a veteran, looking back over the landscape of his life. Darkness is coming down: but the air is clear and the night promises to be full of revelation. Another elder poet, too, was Herbert Palmer, whose *Old Knight* " a poem sequence for the present time," was a title which spoke for itself. His prophetic strain was still unimpaired. Edmund Blunden's quiet voice was heard again in *After the Bombing* whose grave and lyrical poems were full of exquisite observation of a timeless countryside. Ronald Bottrall published his fifth book of verses, *The Palisades of Fear*.

Amongst the poets putting out *Collected Poems*, were Louis MacNeice and Laurence Whistler. MacNeice had grown in stature with time, as had Cecil Day Lewis. Here were two poets likely to survive the criticism of succeeding generations. Their work was the direct statement of distinctive personalities, artists who had found the way to a statement in song of the problems of our time, giving universality to their individual reactions. Laurence Whistler was more intimate, more a poet of solitude; but his idiom was one that everybody could recognize. Comparable with him was Clifford Dyment, whose work, now collected, showed a lyric poet of a Heine-like keenness of touch. Finally, mention must be made of the translation of Dante's *Inferno* by Dorothy L. Sayers. It was remarkable for the way in which it used the original *terza rima* and caught the speed and single-wave sweep, canto by canto, of the original. It would introduce Dante and the whole mediaeval philosophy of life to a wide circle of readers. (*See* also CHILDREN'S BOOKS; LITERARY PRIZES.)

(R. CCH.)

ENGRAVING: *see* DRAWING AND ENGRAVING.

ENTOMOLOGY. **Bee Language.** During 1949 a further remarkable chapter was added by Professor K. von Frisch to his account of the bee language. When in 1946 he published the result of his investigations on the means of communication in the honey bee, he described how foraging bees, after discovering a rich source of nectar, inform and recruit other workers by dancing on the sides of the vertical comb. There were two kinds of dance. The " round dance " indicated that the source was within 100 metres of the hive but gave no hint of its direction. On the other hand, the " tail-wagging " dance, performed when the source was further afield, conveyed accurately both the distance and direction of the food. Distance was indicated by the tempo of the dance. Direction-giving was rather more complex. There was a passage in the dance when the bee momentarily pursued a straight course (the " straight run "). Direction of the food, with reference to the sun was found to correspond perfectly with the angular deviation of the straight run from the vertical. The reason for this is that outside the hive the bee uses the sun as a point of reference; but in the darkened hive the light symbol is replaced by gravity which has a similar directional quality.

Further observations led von Frisch to discover that the tail-wagging dance, mentioned above, is also occasionally performed on a horizontal surface, such as the alighting board of the hive, and although the sun is still the reference point, the straight run is made in the direction in which the food lies. But he noticed that direction-giving remained accurate even if the sun was invisible to the bee. All that was needed was a small area of blue sky. Now light from blue sky is known to be polarized according to a definite pattern. Could the bee make use of this kind of " map "? Von Frisch's work left little doubt that it could. In his most striking experiment a polarizing screen was rotated above the dancing bees. The direction of the straight run immediately changed in accordance with the angle of rotation.

Insect Fuel. All insects store reserve substances which are drawn upon during periods of intense muscular activity. Using the fruit-fly *Drosophila melanogaster* V. B. Wigglesworth made a detailed study of the reserves, their distribution and utilization during flight. The principal reserve substance was glycogen which was distributed in the fat body, haltere knobs and among the indirect flight muscles. Smaller deposits of fat were also present in the fat body When suspended with their legs out of contact with the substratum the insects could be stimulated to " fly " until they were exhausted—a process taking 4-5 hr. in the mature fly. After a single " flight to exhaustion " all traces of glycogen had disappeared, a total equal to some 8% of the body weight being consumed. On the other hand, the fat deposits were intact. During starvation the picture was otherwise for glycogen and fat were used concurrently. The probable explanation was that during flight fat could not be mobilized with sufficient rapidity to be used as fuel.

The efficiency of different substances as sources of energy was also tested by feeding them to exhausted flies at the tip of a waxed pipette. Glucose completely restored the capacity for sustained flight within the remarkably short time of 30-45 sec. One millionth of a gramme provided fuel for a flight of 6 min. Sucrose and maltose restored flight in 1-1½ min.; other, less efficient, substrates restored flight but could not support it continuously.

Hawaian Insects. The indigenous fauna of the Hawaian archipelago provided many fascinating problems for the student of evolution. As it was fast changing or becoming extinct under the impact of new continental species introduced by man, the publication of E. C. Zimmerman's *Insects of Hawaii* was particularly welcome. These volcanic islands, of early Pleistocene origin, are so isolated geographically that immigration must have been exceedingly rare. This is reflected in the fauna, for out of 33 orders 21 are unrepresented; among the absentees are some parasites (the sucking lice), most insects with aquatic larvæ (stoneflies, mayflies) and several orders containing small, fragile insects.

Many insect immigrants which became established evidently found little or no competition from predators and parasites. Thus the large number of flightless insects have clearly been evolved in an environment where flightlessness was not necessarily a disadvantage. With the very small breeding populations favouring the spread of new inheritable characters, many groups have undergone an astonishing radiation. For example, the cosmopolitan genus of plant-feeding bugs *Nysius* contained " a variety of endemic species more widely diverse than the entire *Nysius* fauna of the rest of the world." With many ecological niches untenanted, new habits had been evolved. An example was the nymph of the unique dragonfly *Megalagrion* which had forsaken the aquatic for a terrestial environment.

The Mating Behaviour of Mosquitoes. In 1876, while

erecting a lighting system in New York, Sir Hiram Maxim noticed that one of his dynamos, which was emitting a constant note, was attracting male mosquitoes in considerable numbers. In 1948 L. M. Roth demonstrated that the male is attracted by the high-pitched hum of the female's wing beat, mating usually taking place in flight. Males of *Ædes ægypti* attempted to "mate" with tuning forks vibrating at frequencies ranging from 100 to 800 cycles per sec. The plumose antennæ are the "direction finders." An interesting feature is that at emergence the antennal fibrillæ lie recumbent along the shaft of the organ and sounds were not perceived until they were erected several hours later. In other species the fibrillæ are only held erect during the mating periods. At such times the males often swarm. During the intervening periods of sexual inactivity the note of the female wing beat is ignored.

The Arthropod Fauna of Soil. During World War II, G. Salt and F. S J. Hollick devised a method for rapidly estimating the wireworm populations of pasture land scheduled for ploughing up. Using this technique a census of the arthropod population in a Cambridgeshire meadow yielded numbers equivalent to 1,069 million an acre. In this enormous population minute Collembola and mites were particularly numerous. These authors estimated that the fauna of soil may actually occupy a higher proportion of their total "living space", than do marine organisms—a rather surprising conclusion.

Insect Egg-Shells. Spraying schedules take advantage of the fact that many important orchard pests spend the winter on the trees as eggs. Yet surprisingly little was known about the penetration of spray materials into eggs, or about the causes underlying the resistance or susceptibility of different eggs. With these problems in view J. W. L. Beament made a detailed study of the relatively large egg of the blood-sucking bug *Rhodnius*. The egg-shell proved to be of great morphological complexity, consisting of some seven layers of differing chemical composition. The innermost layer, a thin film of wax, is responsible for rendering the egg waterproof; but it is also one of the important barriers to substances diffusing inwards. The micropyles, through which the sperms enter at fertilization, are the most vulnerable regions; the properties of the materials lining the micropyles determine what classes of liquids can penetrate. Similar problems were examined in North America by E. H. Slifer who used the grasshopper *Melanoplus*. Water exchanges, which are particularly important in the egg of this insect, take place through a further specialized region, the hydropyle. During arrested development (diapause) a wax is laid down at the hydropyle; when diapause is terminated the wax is in some way broken down and development resumed.

The Transmission of Swollen Shoot Disease of Cacao. The alarming spread of this disease during the past few years was threatening the whole economy of the Gold Coast. It was established that the virus is transmitted by mealybugs (*Coccoidea*), and is in this respect unique. The mealybug population is comparatively free from indigenous parasites. The possibilities of biological control—in this case the introduction of a more efficient hymenopterous parasite, that of the coffee mealybug in Kenya—therefore began to be explored. There was a further interesting possibility. The Gold Coast climate did not appear to be ideally suited to the mealybugs which existed there in comparatively small numbers. And even these small populations might perhaps only be maintained through the constant attentions of ants (*Crematogaster*) which protect and "farm" the mealybugs for their honeydew. Whether adequate control of the ants would result in an indirect control of the mealybugs was for the future to decide.

Organo-Phosphorus Insecticides. A discussion on this rapidly developing subject was held in London under the auspices of the Association of Applied Biologists. The insecticidal properties of certain organo-phosphorus compounds were discovered by Gerhard Schrader in Germany during World War II. One of his materials, tetraethyl pyrophosphate (TEPP) was developed commercially in the United States and Great Britain as a cheap substitute for nicotene in controlling aphids and thrips. Other of Schrader's compounds showed considerable systematic effect; that is, when watered round the roots of plants, these substances were absorbed and translocated to the leaves, where they were capable of killing sucking insects. Knowledge of their mode of action was increasing; a recent discovery was that leaves containing absorbed systematic insecticides could kill insects in close contact with them by fumigant action alone. (*See* also CHEMISTRY.)

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ENVOYS: *see* AMBASSADORS AND ENVOYS.

EPIDEMICS. No serious disease pandemics occurred in 1949. In the United States there were fewer recorded cases of pertussis (whooping-cough), streptococcal infections, syphilis, bacillary dysentery, salmonellosis, meningococcus meningitis and pneumonia. The rabies epizootic continued to spread in the U.S. but intensive dog vaccination programmes reduced the amount of rabies in dogs and humans, though other animals, particularly foxes, were now becoming largely responsible for the spread of the disease.

At the close of 1948 and extending well into 1949 there was an epidemic of jungle yellow fever in Panama, an area from which no human cases of the disease had been reported since 1907. Heroic measures of *Ædes ægypti* irradication and mass immunization of the population resulted in the effective control of the outbreak. The epidemic recurrence of this disease in Panama served as a warning that epidemiologists should remain alert to the danger of the reintroduction of yellow fever into many areas long free of recognized human infection.

Influenza which appeared in Sardinia in Oct. 1948 spread to Italy, France, Austria, Bulgaria and the Netherlands by Jan. 1949, and later to the U.S. This outbreak provided the first test of the World Health organization's Influenza centre, established at London in 1948, and the "listening posts" scattered in laboratories throughout the world. The centre recommended that throat washings and acute and convalescent phase serum from influenza cases be submitted to approved laboratories for determination of the strain of virus involved. On Jan. 12, the centre announced identification by the Institut Pasteur of a virus belonging to the A Group as the cause of half of the cases in France. The centre was informed of the isolation of a similar virus from the southern area of the Netherlands and later the strain was discovered in the United States. The virus was shown to be related to the A prime or FM1 strain epidemic in Europe and the United States during 1947.

During the 1947 pandemic, it became apparent that the stock vaccines then available, containing influenza virus A and B, failed to be protective. Subsequently, the FM1 strain was added to all influenza vaccines; however, it was realized that antigenically different strains might appear from time

to time, so that ideally it would be best to immunize the threatened population with the current epidemic strains. This was done in at least one area in 1949. In this episode, only ten days were required for the production of vaccine following the receipt by the laboratory of the throat washing containing the epidemic strain. During the pandemic of 1949, the prevalent influenza disease was mild, with few casualties. The success in securing speedy notification of the strain organized by the World Health organization was encouraging. (*See* also BACTERIOLOGY; ENTOMOLOGY.) (H. E. HI.)

ERITREA: *see* ITALIAN COLONIAL EMPIRE.

ESTONIA. From Feb. 24, 1918, to Aug. 6, 1940, when it was annexed by the U.S.S.R., Estonia was an independent republic. The British, U.S. and many other governments, however, had not granted *de jure* recognition to this annexation. Area: 18,357 sq. mi. Pop.: (Jan. 1939 est.) 1,134,000, (Jan. 1946 est.) 854,000. The reduction is explained by the evacuation of 17,000 Germans in 1939-40, by the Soviet deportation in 1940-41 of 62,000 people, by the fact that about 50,000 Estonians fled to Germany and 30,000 took refuge in Sweden when the Soviet armies returned, and by a second wave of Soviet deportations begun in 1944 (about 121,000 deported up to the end of 1945). Chief towns (1939 est.): Tallinn (cap., pop., 146,400); Tartu (60,100). Chairman of the Supreme Soviet of the Estonian S.S.R., Edvard N. Päll; chairman of the Council of Ministers, Arnold T. Veimer.

History. During 1949 the country came still further under Russian domination and state administration, the Estonian Communist party being permeated by Russians. The party purge begun in 1948 continued. Two deputy prime ministers, Oskar Sepre, ex-chairman of the State Planning commission, and Nigol Andresen were dismissed, the former's place being taken by a Russian, Arseny Leonov. Russians in key positions were Evgheny Radulov, minister of oil-shale industry, A. Sokolov, in charge of collectivization, and A. N. Bezkrovny, in charge of agricultural production. N. G. Karotamm, first secretary general of the Estonian Communist party, was a Russified Estonian, but the second secretary, V. Kedrov, was a Russian.

The total population of Estonia was estimated by mid-1949 at 1·3 million. This increase, however, meant both an absolute and a relative decrease of the native population. The influx of Russians was particularly important in owns. For instance, in Tallinn a total population of 165,000 included 70,000 Russians. A new mass deportation of about 40,000 people took place in the first half of 1949. In August Major General Boris G. Kumm, minister of state security, and Major General Alexander J Rezev, minister of home affairs, were awarded the Order of the Red Banner " for the successful execution of a special assignment of the government of the U.S.S.R." (*see* also LATVIA; LITHUANIA).

At the beginning of 1949 about 88% of the party members were civil servants, 8% workers and 4% peasants, but as the forcible collectivization, which had been inaugurated in Aug. 1947, increased the grip of the party on the countryside, this disproportion was possibly reduced. In July 1948 there were only 58 collective farms in Estonia; on Sept. 16, 1946, A. T. Veimer announced in *Izvestia* that their number was 2,975 embracing four-fifths of the arable land.

Päll proclaimed on July 21, 1949, that industrial production was double what it had been in 1939—no small achievement in a country where by 1944 war destruction had reduced the industrial production capacity to one-seventh. It had also been earlier announced that the volume of oil-shale production in 1948 was double the prewar yield. That would bring the production of oil-shale to 3·4 million and of oil to 358,000 metric tons: the respective targets for 1950, however, were 8·4 and 1 million tons.

According to N. G. Karotamm, 1·8 million sq. m., or 48% of the total housing space, had been destroyed during World War II. The construction target for 1950 was 1·1 million sq. m., which meant that a population increased by one-seventh was to be housed in a space reduced to four-fifths of that of 1939.

By mid-1949 the number of Lutheran clergymen had been reduced from 170 (in 1939) to 40. The Lutheran bishop August Pahn was deported.

Education. Total number of pupils in elementary and secondary schools in 1949 was 156,000, including 24,543 members of the All-Union League of Communist Youth (Komsomol). The University of Tartu had in 1949 a staff of 450 professors and lecturers, while the students, more than half of whom were women, numbered 2,700.

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ETCHING: *see* DRAWING AND ENGRAVING.

ETHIOPIA. An independent empire of northeastern Africa bounded on the north by Italian Eritrea (from 1941 under British military administration), on the west by the Anglo-Egyptian Sudan, on the south by Kenya, on the southeast by Italian Somaliland (from 1941 under British military administration), and on the east by British and French Somaliland. Area: *c.* 350,000 sq. mi. Pop. (est. Dec. 1948): 8 million, but the ruling race, the Amhara, numbers about 2 million. Languages: Amharic, the official language; also Tigrinya, Tigré, Galla, Somali, etc.; percentages uncertain. Religions: Christian (Alexandrine) 57%; Moslem 17%; pagan, etc., 26%. Chief towns: Addis Ababa (cap., *c.* 250,000); Harar (*c.* 45,000); Dessie (*c.* 35,000); Dire-Dawa (*c.* 30,000). Ruler, Emperor Haile Selassie I (*q.v.*); prime minister, Bitwadded Makonnen Endalkachaw (*q.v.*); minister of foreign affairs, Abte Wold Aklilou.

History. Throughout 1949 the political atmosphere was clouded by the continued failure of the United Nations to effect disposal of the ex-Italian colonies: postponement of the Eritrean question at both the spring and autumn sessions was received with a somewhat cynical resignation—the similarity of Lake Success to the Amharic word *lekeskes*, meaning " confusion," was remarked. Ethiopia's claim for the surrender as war criminals of Marshal Pietro Badoglio and Rodolfo Graziani also proved abortive, since Italy rejected its note and no other powers were disposed to press the matter, despite the publication of impressive evidence in the form of Italian orders and telegrams dating from the period of war and occupation. Ethiopia continued participation in other U.N. activities and was the first state to ratify the Genocide convention.

Individual foreign relations were developed by the raising to embassy status of three Addis Ababa legations—those of Great Britain, U.S. and France—with reciprocal action by Ethiopia in the three capitals concerned. In May Ethiopian ministers were accredited to India and to Norway; and diplomatic exchanges with certain South American states were foreshadowed. Delegates from the Imam of Yemen were received during the year.

Internal politics were strengthened in two directions: in January the marriage took place between Princess Aida, grand-daughter of the Emperor, and Dejazmach Mangasha, son of Ras Siyum, hereditary prince of Tigré, two royal houses being thus united; and in July there was a considerable re-shuffle of ministerial posts, most of the ministries being now provided with both a minister and a deputy minister. Public security remained good; foreign reports of



Haile Selassie starting drilling operations in search of oil in Ogaden in May 1949.

a " revolt " during the summer, including an alleged attack on the Crown Prince, were tendentious exaggerations of an insignificant local disturbance.

Events of economic importance—though potential rather than actual—were the " spudding-in " of the first oil well in Ogaden in May; preparations for extensive cotton-growing, in an attempt to reduce imports of cotton goods, always a heavy drain on Ethiopian economy; and the start of inoculation of stock, on a large scale, against rinderpest and other cattle diseases, this with the assistance of F.A.O. experts. In the financial sphere, a settlement of outstanding Lend-lease accounts was announced in May. The Ethiopian dollar was not devalued in line with sterling; some concern was felt in commercial circles but the economic reaction could not yet be judged.

Communications were furthered by the opening in April of the rebuilt bridge over the Gibbe on the Jimma road; and in June the foundations were laid of a new bridge over the Blue Nile, on the road connecting Addis Ababa with Gojjam. The railway suffered interruption for several weeks in the summer through a strike of workers at Dire-Dawa. Ethiopian Air Lines, besides maintaining all their regular services, inaugurated some new ones to provincial towns in the south. Interest was aroused by visits from foreign aircraft—a Bristol freighter, the new " Scandia " model, and a Dutch-American Convair liner.

In education progress was normal. Of 26 candidates for London matriculation, 13 passed and were sent abroad for higher studies, most as usual to England, where a society of Ethiopian students published its first magazine. The foundation stone of a University of Addis Ababa was laid in November; but immediate developments were not anticipated. Books published in Amharic included first instalments of a revised translation of the Bible; a world history; and *Ethiopia and Western Civilization* by Kabbada Mika'el, director of the National library. Several new Amharic plays were produced, notably a modern social drama in verse by Kabbada Mika'el and a historical play on the Emperor Theodore by Girmachaw Takla-Hawaryat. A visiting Greek company played *Antigone;* and scenes from Shakespeare were given at the British institute in English by Ethiopian schoolboys. (X.)

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Education. (Est. 1948) Elementary schools 390, pupils 35,000, teachers 1,350; secondary schools 3, pupils 450, teachers 30; technical schools 2, students 250, teachers 15. Illiteracy: 60-65%.

Foreign Trade. (1947) Imports E.$69,035,000; exports E.$89,430,000.

Transport and Communications. Roads 1947, (asphalted and macadamized), 15,500 km. Railway: 406 mi. of the Franco-Ethiopian Addis Ababa-Jibuti narrow gauge line run through Ethiopian territory. Motor vehicles in use (Dec. 1947): cars 3,040, commercial vehicles 2,823. Telephones in Addis Ababa (1947): *c.* 2,000.

Finance and Banking. Budget (1947): revenue E.$58,000,000; expenditure E.$58,000,000. Monetary unit: *Ethiopian dollar*=100 cents. Exchange rate (Dec. 1949): £1=7 E.$ (official), 9 E.$ (free market).

EUROPE, COUNCIL OF: *see* COUNCIL OF EUROPE.

EUROPEAN RECOVERY PROGRAMME

(E.R.P.), popularly known as the Marshal plan after the former U.S. secretary of state who suggested it, was a scheme whereby the United States, through government grants and loans, assisted a co-operative effort of 18 European states to achieve independence from outside economic aid by 1952.

The programme was inaugurated on July 1, 1948, and 1949 was its first full year. During this year, physical recovery in Europe, which had begun in 1948, continued to make satisfactory progress. At the same time, it became increasingly doubtful whether the aim of the E.R.P.—independence of western Europe from further assistance by 1952—could be reached by the methods adopted.

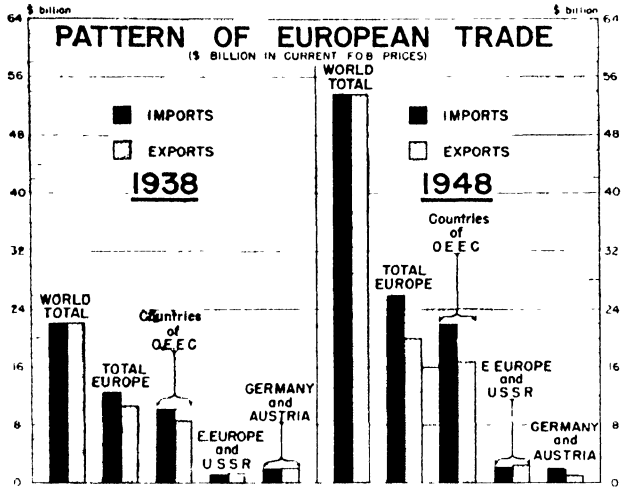
The participants in the E.R.P. were Austria, Belgium, Denmark, France, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Sweden, Switzerland, Turkey, the United Kingdom and the free territory of Trieste, as well as, originally, the British-American and French occupation zones of Germany, represented by the respective occupation authorities. The place of these was in the closing months of 1949 taken by the German federal republic (Western Germany) so that the total number of E.R.P. countries was 18.

These 18 countries were individually linked with the U.S. through bilateral treaties, in which the U.S. undertook to provide assistance in accordance with the Foreign Assistance act of April 3, 1948, and the European countries promised to make an effort to attain independence from outside assistance within four years by self-help and mutual help.

American aid was administered by the Economic Co-operation administration (E.C.A.), a U.S. government agency headed, under the president, by an administrator, who throughout 1949 was Paul Gray Hoffman. Division of American aid, as well as the stimulation of European mutual help and co-operation, was the task of the Organization for European Economic Co-operation (O.E.E.C.), an international body with its seat in Paris, on whose policy-deciding council all 18 participating countries were represented. In addition, to speed its business, the O.E.E.C. established in Feb. 1949 a ministerial committee of eight member states, which was to act as an " inner cabinet."

For the year July 1, 1948, to June 30, 1949, the U.S. had made available $4,875 million in grants and loans for purposes of the E.R.P. In addition, the European participants had agreed on an intra-European payments scheme, by which European creditor countries passed on part of the dollar aid they received to their debtors in the form of grants (drawing rights) in their own currencies to an extent of $564·7 million altogether, in order to free the flow of intra-European trade.

As a result of all this, the O.E.E.C. was able, in its first annual report on April 16, 1949, to state that " Europe can



look back on a year of progress which could never have been achieved by the efforts of the individual countries alone." Production had generally reached prewar levels (with increases of about 10 million tons in steel production, 31 million tons in coal production and 11 million tons in bread grain production, from the end of 1947 to the end of 1948), and the trade deficit of the 18 countries with the outside world as a whole had been reduced from more than $7,000 million in 1947 to about $5,000 million in 1948. Much of this progress was maintained during 1949.

For the year from July 1, 1949, to June 30, 1950, the U.S. appropriated for E.R.P. purposes $3,628,380,000, as well as a special fund of $150 million which was not to be distributed among the individual participants, but held at the disposition of the E.C.A. administrator to serve as a strategic reserve for the purpose of furthering European economic integration. The sum of $3,628,380,000 was distributed among the 18 participating nations by the O.E.E.C. as follows, 1948-49 figures being shown in comparison:

	1949-50	1948-49
Austria	$166,400,000	$215,200,000
Belgium-Luxembourg	312,500,000	247,900,000
Denmark	87,000,000	109,100,000
France	673,100,000	980,900,000
Greece	156,300,000	144,800,000
Iceland	7,000,000	5,200,000
Ireland	44,900,000	78,300,000
Italy	389,100,000	555,500,000
Netherlands	295,600,000*	469,600,000
Norway	90,000,000	83,000,000
Portugal	31,500,000	Nil
Sweden	48,000,000	46,600,000
Switzerland	Nil	Nil
Trieste	13,400,000	17,800,000
Turkey	59,000,000	39,700,000
United Kingdom	919,800,000	1,239,000,000
Western Germany	332,900,000	509,800,000

* Including $37,500,000 for Indonesia

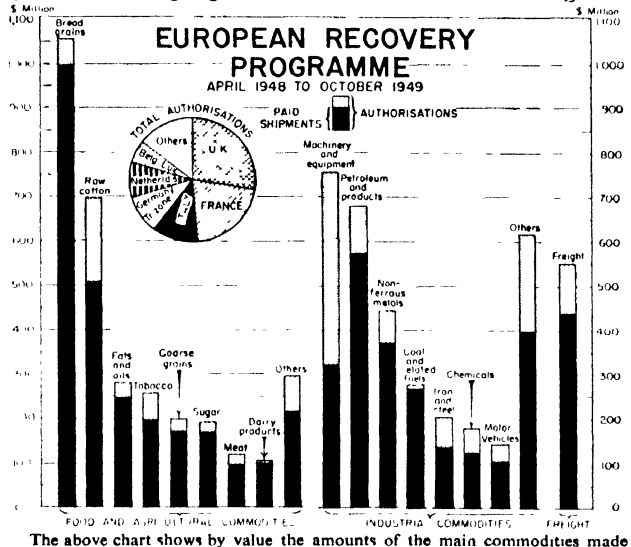
This distribution, based on a report submitted jointly by the chairman of the council of the O.E.E.C., Baron Snoy (Belgium), and the secretary general, Robert Marjolin (France), was accepted unanimously by the council of the O.E.E.C.; the distribution problem, in fact, proved far less difficult than in the preceding year. At its meeting on Oct. 30, 1949, the council further decided that Marshall aid for 1950-51, whatever its amount, should be divided among member countries in the same ratio as that for 1949-50. It warned member countries to prepare their programmes on the assumption that Marshal aid in 1950-51 would amount to at most 75% and that in 1951-52 it would only be 50% of the 1949-50 sum. The only exception to this reduction would be Greece who could count on the same amount for 1950-51 as for 1949-50 because of the delay inflicted on her recovery by the Communist rebellion.

Far more difficult than the division of Marshall aid was the renewal and modification of the intra-European payments scheme. It was generally recognized that the payments scheme in its 1948-49 shape was a clumsy and unsatisfactory way of dealing with the disequilibrium of trade inside Europe: it put a premium on running trade deficits, was based on speculative advance estimates of future deficits, and kept trade rigidly in bilateral channels. There was agreement that the system had to be made more flexible. But there was disagreement on how that flexibility was to be brought about.

Belgium suggested a scheme by which drawing rights granted by one member country could be used in any member country. To this Great Britain objected that Belgium, whose trade surplus with other member countries was greater than her dollar deficit, would in this way attract most of the drawing rights granted by other member countries, and that in consequence these would lose dollars to her. Britain suggested that while drawing rights might be switched by bilateral arrangements from one debtor country to another, the creditor country in which they could be used should remain unalterable. Liberalization of intra-European trade should be sought rather by a reduction of quantitative import restrictions.

Nearly the whole month of June was spent in negotiations about this question; and a compromise was only reached in the early hours of July 1, the date when the old payments agreement expired. This compromise agreement accepted convertibility of drawing rights in principle but limited it for the year 1949-50 to 25% of the total within an absolute ceiling of $40 million. The particular position of Belgium was, moreover, covered by a complicated special arrangement of which the upshot was that Belgium's trade surplus with the other member countries, estimated at $400 million in the year 1949-50, was to be covered by drawing rights and conditional dollar aid to the amount of $312 5 million, while for the remaining $87·5 million Belgium was to grant long term loans to her debtors.

On the basis of this agreement, the intra-European payments scheme for 1949-50 was agreed by the council of the O.E.E.C. two months later. The following creditor countries granted drawing rights to their debtors (1949-50, together



The above chart shows by value the amounts of the main commodities made available under the E.R.P, April 1948—Oct 1949 These amounts are shown in two forms—authorizations and paid shipments. The authorizations, which are issued by the E C A , permit the E R.P. countries to purchase in dollars the specified values of different goods; the paid shipments are the actual receipts in payment for these goods.

with comparative figures for 1948-49, both figures in dollar equivalents of amounts granted in the respective national currencies):

	1949-50	1948-49
Belgium-Luxembourg	$400,000,000	$207,500,000
Italy	24,500,000	20,300,000
Sweden	48,000,000	25,000,000
Turkey	Nil	19,700,000
United Kingdom	69,000,000	282,000,000
Western Germany	163,000,000	9,400,000

The following debtor countries received drawing rights from their creditors:

	1949-50	1948-49
Austria	$83,100,000	$63,500,000
Denmark	14,900,000	6,800,000
France	223,600,000	323,300,000
Greece	104,300,000	66,800,000
Netherlands	136,200,000	71,700,000
Norway	71,800,000	31,800,000
Portugal	26,200,000	Nil
Turkey	45,300,000	Nil

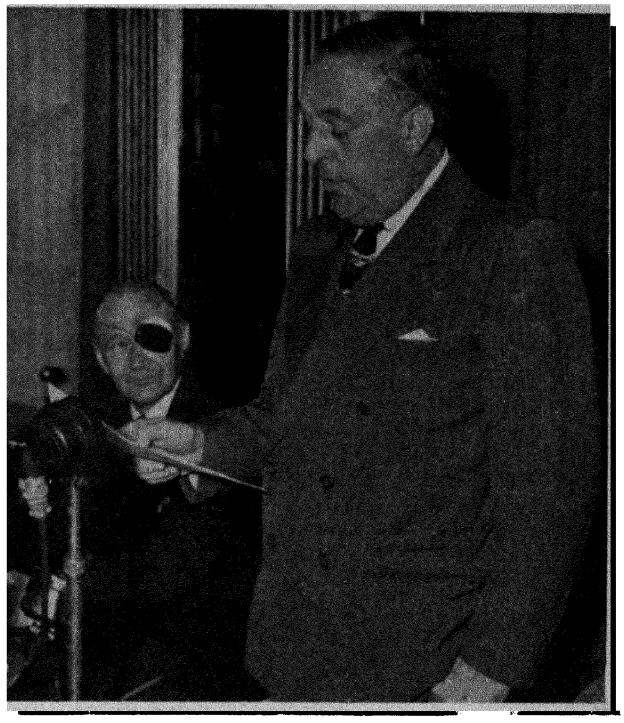
Dissatisfaction with the whole conception of the European payments scheme, however, continued and in Dec. 1949 a special working party was set up by the O.E.E.C. to work out a different and more flexible method of dealing with intra-European trade deficits. In the closing days of the year this working group produced the proposal of a European clearing union, to be financed by contributions from the central banks of member countries in their own currencies as well as by the 150 million undistributed dollar pool held by the E.C.A. for E.R.P. purposes. From this fund, credits were to be extended to European debtor countries, allowing them, up to a certain limit, to settle trade deficits arising with other member countries of the O.E.E.C. Beyond that limit, deficits would have to be paid in increasing proportion, and finally to 100%, in gold or dollars. The scheme, from which its originators expected a gradual restoration of multilateral trade and currency convertibility among the member countries of the O.E.E.C., awaited the agreement of the governments concerned at the end of the year.

Meanwhile the British proposal to liberalize intra-European trade by the reduction of quota restrictions on imports, made during the critical negotiations about convertibility of drawing rights in June, had borne fruit in a resolution by the council of the O.E.E.C. of Nov. 2, calling on all member countries to remove 50% of their quantitative import restrictions against one another in the fields of food and feeding stuffs, raw materials and manufactured goods, counted separately, by Dec. 15.

Altogether, the progress made by the E.R.P. countries during 1949 both in physical recovery and in economic co-operation was considerable. Nevertheless, doubts about the possibility of achieving economic equilibrium between western Europe and the U.S. at a tolerable level by 1952 deepened during the year; and the outlook at the end of the year remained uncertain and troubled.

In the opening days of 1949, the O.E.E.C., in a review of the individual four-year programmes of the member countries, was forced to the conclusion that they did not add up to one integrated programme; that the member countries all planned to export more to one another than they were prepared to import from one another; that many of their estimates were over-optimistic; and that, even so, they added up to a remaining over-all deficit of $1,500 million by June 30, 1952, which, on a realistic estimate of probable dollar earnings, was more likely to amount to $2,500 million.

It was hoped early in 1949 to modify and integrate the individual programmes of member countries in response to this criticism and a " plan of action " for 1949-50, adopted by the council of the O.E.E.C. in March 1949, called for measures to this effect. However, pressure of current business and the impact of new difficulties prevented progress in this direction during 1949.



Paul Gray Hoffman, United States Economic Co-operation administrator, addressing a press conference in London, Aug. 1949. Behind is Lewis Douglas, U.S. ambassador to Britain, whose left eye was injured in a fishing accident in April 1949.

The new difficulties arose mainly from the American business recession, which made itself felt early in the year and reached its peak in the summer months of 1949. Defended by the U.S. politicians as a healthy re-adjustment, this recession nevertheless resulted in a fall in U.S. imports from Europe and European dependencies (and consequently, a fall in European dollar earnings) which was estimated in the Snoy-Marjolin report of Aug. 29 as between $500 million and $600 million during the year. According to the report, this represented about 30% of the estimated dollar earnings of the E.R.P. countries as a whole. " In some cases, there was a decline of 40, 50 and even 60%," the report said. The resulting unforeseen new dollar stringency, which to a noticeable extent nullified the dollar aid received under the E.R.P., made all the E.R.P. countries acutely dollar-conscious and hampered generous schemes for greater integration, which might have implied initial dollar sacrifices for one or the other member country.

Slow progress of European integration in turn provoked an unfavourable political reaction in the United States, where the impression gained ground that Europe was taking the dollars provided under the E.R.P. without taking her obligations of self-help and mutual help sufficiently seriously. At an O.E.E.C. council meeting on Oct. 31, Paul Hoffman called for a " dramatic " rise in European dollar earnings and, simultaneously, for the formation in western Europe " of a single large market within which quantitative restrictions on the movement of goods, monetary barriers to the flow of payments and, eventually, all tariffs are permanently swept away."

A partial response to this speech were the approaches to regional economic unions made in the closing months of the year by France, Italy and Benelux (" Fritalux " or " Finebel "), and by Britain and the three Scandinavian countries (" Uniscan "). In every case, however, the fact

that the economies of the countries concerned (like those of the 18 E.R.P. nations as a whole) were competitive rather than complementary made practical progress exceedingly difficult and it was doubtful at the end of the year whether the attempts to form regional economic unions in western Europe would produce more than some remarkable new essays in nomenclature.

Among those most closely concerned with E.R.P. there were, at the close of 1949, increasing doubts whether the scheme, for all its generosity and its great success in its first year and a half, was not planned on too narrow a basis of time and space to succeed in its aim of re-establishing a permanent equilibrium of international trade. Many European and American economists tended to agree that this aim could only be achieved by extending U.S. foreign aid both beyond 1952 and beyond western Europe, and in particular by making it possible for western Europe to earn dollars through the development of underdeveloped countries.

(S. HR.)

EVANS, DAME EDITH, English actress (b. London, Feb. 8, 1888), made her first stage appearance in Dec. 1912 as Cressida in *Troilus and Cressida.* In 1914 she became a member of the Vedrenne and Edie company at the Royalty theatre, London, and in 1918 toured with Ellen Terry in variety theatres. She continued on the London stage and in 1925-26 was with the Old Vic company; in 1931 and 1934 she acted in New York. She also appeared at the Malvern festival. In 1927 she went into joint management with Leon M. Lion at Wyndham's theatre. In plays of William Shakespeare her parts included Nerissa in *The Merchant of Venice,* Mistress Page in *The Merry Wives of Windsor,* Helena in *A Midsummer Night's Dream* and Nurse in *Romeo and Juliet;* and in plays of George Bernard Shaw she appeared as Lady Utterwood in *Heartbreak House,* Serpent and She-Ancient in *Back to Methuselah* and Orinthia in *The Apple Cart.* In Restoration and 18th century comedy her outstanding parts have been Millament, Lady Fidget, Mrs. Sullen, Lady Wishfort and Mrs. Malaprop; and she played Anton Chekhov and Henrik Ibsen. Later appearances were Katerina Ivanovna



Dame Edith Evans as Lady Pitts, and Felix Aylmer as Sir Joseph Pitts in "Daphne Laureola" by James Bridie at Wyndham's theatre, London.

in *Crime and Punishment,* Cleopatra in *Anthony and Cleopatra* and Lady Wishfort in *The Way of the World.* On March 23, 1949, she opened at Wyndham's theatre as Lady Pitts in *Daphne Laureola* by James Bridie. In 1948 she acted for the first time in films; first in *The Queen of Spades,* followed by *The Last Days of Dolwyn.* In May 1948 she visited Moscow in connection with Moscow's tenth Shakespeare conference and opened an exhibition "Shakespeare on the English Stage." In 1925 she married George Booth (d. 1935) and was created a dame of the British Empire on Jan. 1, 1946.

EVATT, HERBERT VERE, Australian statesman (b. East Maitland, New South Wales, April 30, 1894), was appointed attorney general and minister for external affairs in 1941 and, in 1946, deputy prime minister as well. (For his early career see *Britannica Book of the Year 1949.*)

In Sept. 1948 Evatt was elected president of the United Nations general assembly. In March 1949 he presented his government's case in the banking dispute before the privy council in London (*see* AUSTRALIA), and in April continued as president of the United Nations general assembly at its resumed meetings at Lake Success. Before returning to Australia he visited Berlin where he saw the airlift in operation. In March the French government presented him with the grand cross of the Legion of Honour for outstanding work in the interests of peace as president of the United Nations general assembly. The general election held on Dec. 10 resulted in a defeat for the Labour government, and he was succeeded as minister for external affairs by P. C. Spender on Dec. 19.

EXCHANGE CONTROL AND EXCHANGE RATES. In 1948 the world shortage of dollar exchange had been progressively reduced by rising production and exports outside the U.S. as well as by more stringent control of imports, but this trend was sharply reversed in the second quarter of 1949. The causes of this change were many and ranged from the reappearance, for the first time since World War II, of a buyers' market for many commodities to the abatement of inflation in the U.S. at a time when significant inflationary pressure still persisted in various other parts of the world. The strain on the gold and dollar resources of the sterling area in particular became acute and on Sept. 18, with the approval of the International Monetary fund, the pound was devalued by 30·52% from 4·03 to 2·80 U.S. dollars.

Changes in the exchange rates of many other currencies followed quickly and by Nov. 15 the International Monetary fund had approved new par values for 14 of its 48 members. Of the others, eight, Austria, China, Finland, Greece, Italy, Poland, Thailand and Uruguay, had not yet established the initial par value of their currencies, while France continued, as in 1948, to be without an agreed par value with the fund. In all these countries except China and Poland, currency adjustments amounting to depreciation against the dollar were undertaken. Similar changes were also made in Argentina, Burma, Ceylon, Ireland, Israel, New Zealand, Portugal, Sweden and Western Germany, which were not members of the International Monetary fund. On the other hand, Switzerland, most of the countries of eastern Europe, central and northern Latin America and several countries of the middle and far east, such as Persia, Pakistan and the Philippine republic, did not allow their currencies to depreciate against the U.S. dollar.

Exchange and import restrictions however, were maintained throughout the year in most countries, with the exception of the U.S., Switzerland and some central American countries. Furthermore, many nations, especially in Latin America, continued to operate multiple exchange rates to control imports and exports. Nevertheless, some progress towards freedom of the exchanges was made, especially in Belgium where the franc was made freely convertible on Nov. 14. In France and Italy the September currency depreciations were accompanied by a substantial unification of the exchange rate structures.

North America. *United States.* The relatively strong position of the U.S. dollar—and the growing difficulties of

other countries in meeting their dollar requirements—clearly affected the U.S. balance of payments. In the spring of 1949 the rising trend of U.S. imports of goods and services was reversed, as a result both of reduced volume and declining prices. The U.S. surplus on current account (goods and services), which had fallen to $1,205 million in the third quarter of 1948, rose to $1,990 million in the second quarter of 1949. In the third quarter of the year, largely as a result of more stringent restrictions imposed on imports from the U.S. by many countries suffering from a shortage of hard currencies, the surplus was reduced to $1,161 million. In the first nine months of the year, the U.S. current account surplus totalled $4,811 million and despite U.S. government grants and loans of $3,978 million and $563 million respectively, foreign countries had to draw upon gold and short-term dollar assets to the extent of $591 million to finance imports of goods and services from the U.S. This was partly offset, however, by a net inflow of foreign long term capital into the U.S. amounting to $122 million. Both these figures included net dollar disbursements by the International Monetary fund and the International bank. The remainder of the U.S. surplus was financed by net U.S. private remittances of $412 million and by a net outflow of U.S. private long and short term capital, amounting to $278 million. The means of financing thus exceeded the current account surplus, leaving unidentified transactions of $889 million.

The upward trend of the U.S. gold reserves continued, from $24,398 million at the end of 1948 to $24,771 million at the end of Aug. 1949. After the currency devaluations of September, however, fears of an eventual rise in the price of gold—labelled groundless by U.S. official spokesmen—led some countries to prefer gold to dollar balances and foreign purchases of gold, for example by Italy and the Netherlands, brought the U.S. reserves down to $24,688 million at the end of October.

Canada. On Sept. 20, two days after the devaluation of sterling, the Canadian dollar, which had been at par with the U.S. dollar since July 1946, was devalued by 9·1%. The unofficial buying rate in New York improved from an average of 1·082 per U.S. dollar in January to an average of 1·051 in the two weeks preceding the devaluation of sterling. Thereafter the disparity was practically wiped out for a time, but at the end of the year the free rate was again quoted at a small discount.

The over-riding problem of Canadian trade and payments in the postwar years was to make the traditional surplus with Europe convertible to meet the payments deficit with the U.S. Payment of U.S. dollars by the Economic Co-operation administration for goods shipped to Europe under the European Recovery programme eased the strain; but the vulnerability of Canada's position was clearly shown in the spring of 1949, when a cessation of these " offshore purchases " produced a crisis in Canadian trade. Between the end of March and the end of June the Canadian reserves of gold and U.S. dollars fell from U.S. $1,076 million to $977 million.

Latin America. Although monetary conditions were rather more stable in most Latin American countries than in 1948, a considerable degree of inflationary pressure still persisted. Gold and foreign exchange holdings remained fairly steady for the area as a whole and, unlike most other parts of the world, there were fewer exchange rate adjustments than in 1948; but, whereas some of these countries, however, increased their holdings of gold and foreign exchange, the monetary reserves of others declined or were maintained at about the same level only with the aid of various import and exchange controls. Only Cuba, the Dominican Republic, El Salvador, Guatemala, Haiti, Mexico and Panama operated without exchange controls.

Mexico, after maintaining the rate at between 6·85 and 6·95 pesos per U.S. dollar from Sept. 1948 up till Jan. 1949, allowed it to depreciate gradually in free market operations to about 8·22, and on June 17 a new par value of 8·65 pesos to the U.S. dollar was announced with the approval of the International Monetary fund.

Following the devaluation of sterling four countries made important rate changes. *Argentina* readjusted her multiple rate structure as from Oct. 3. The preferential selling rate of 3·73 pesos to the U.S. dollar, used for essential imports, was retained but an additional preferential rate of 5·37 was introduced. The basic selling rate, applicable to imports of semi-essentials, was devalued from 4·23 to 6·09 and the free selling rate, for authorized non-trade remittances, from 4·81 to 9·00 pesos to the dollar. Similarly the basic buying rate of 3·35, applicable to important exports, was retained, while new preferential buying rates for " non-regular " exports of 4 83 and 5·73 pesos to the dollar replaced the old preferential rate of 3·98 and a new special buying rate of 7·20 for exports of certain industrial goods replaced the old rate of 5·00. Apart from the new free rate which represented a depreciation of 47% against the dollar, the effect of these changes was in general to devalue the peso by 30·5% against the dollar and, with some significant exceptions, to maintain the old sterling/peso relationship.

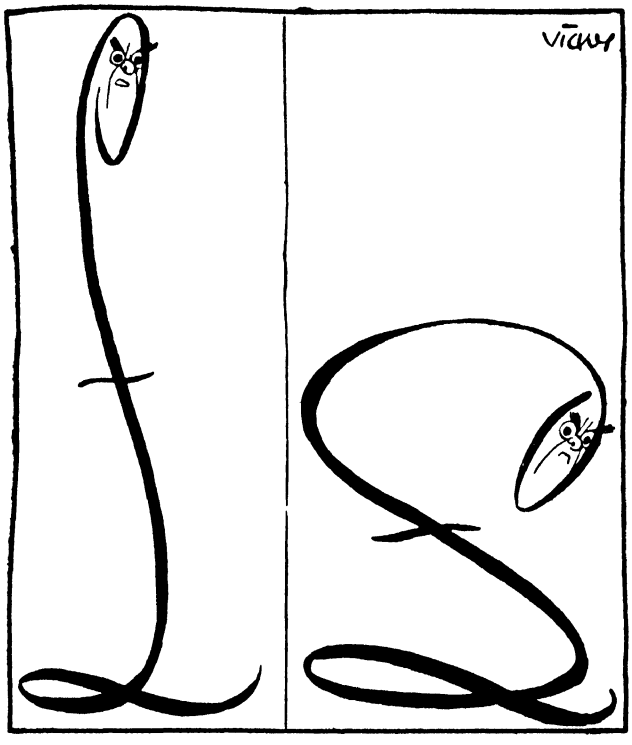
In *Paraguay* new rates established in November effected a substantial devaluation of the guarani against the dollar for most transactions and a considerable simplification of the rate structure. The old official rate of 3·12 guaranies per U.S. dollar was retained for essential imports and three new import and export rates were set up, ranging from 4·92 to 8·05 guaranies to the dollar.

On Nov. 14 *Peru* announced a new exchange rate system involving the temporary abandonment of the old parity, the adoption of a fluctuating rate and a simplification of the rate structure. Under the new system all trade transactions were conducted at the free certificate rate (which had stood at 16·18 soles per U.S. dollar on Nov. 5), and a free rate without certificates was applicable to non-trade transactions. The system prevailing before Nov. 14 resulted in certificate dollar/sterling cross rates as low as $3·03 in April but after the devaluation of sterling this disparity practically disappeared.

On Oct. 6 *Uruguay* introduced a new series of rates. The new system retained the old basic buying and selling rates of 1·52 and 1·90 pesos to the dollar respectively, the former applicable to wool, wheat, meat, and linseed, the latter to general imports amounting to about 75% of the total. Two new buying rates of 1·78 and 2·35 pesos were established for other exports and an additional selling rate of 2·45 for luxury imports.

The Sterling Area. *Great Britain.* The exchange control system instituted at the outbreak of World War II and placed on a more permanent basis in Great Britain by the Exchange Control act of 1947 was maintained practically unchanged throughout the year. Furthermore, no country entered or left the sterling area in 1949.

In the latter half of 1948, the dollar deficit of the sterling area had been more than covered by E.C.A. assistance and the central reserves of gold and dollars increased from $1,733 million at the end of Sept. 1948 to $1,874 million at the end of March 1949. Nevertheless, the international economic position of Great Britain remained extremely vulnerable. The large prewar net income from investments abroad had not been restored, and government expenditure overseas was still a heavy burden. Various other factors also contributed. The price of gold, an important dollar earner for the overseas sterling area, had remained unchanged in the face of a rise of about 100% in the prices of exports from the dollar area. Furthermore, apart from the South African



Vicky's comment in the "News Chronicle" (London) on the devaluation of the pound by Sir Stafford Cripps on Sept. 18, 1949.

gold loan of £80 million to Great Britain in 1948, which was repaid in sterling in 1949, the gold production of the overseas sterling countries and the proceeds of their exports to the dollar area did not, as in prewar years, yield a net surplus with which Great Britain could cover its deficit with the western hemisphere. Instead, these countries, taken as a group, were now net claimants on the central hard currency reserves rather than net dollar earners, and the surplus Great Britain had with them was largely made up of "unrequited exports" financed by releases from accumulated sterling balances and other capital transfers. In the first nine months sterling releases totalled the equivalent of $830 million and were equal to one-seventh of all Great Britain's exports.

In the second quarter of 1949, while imports of sterling area countries from the dollar area increased, their exports to that area fell both in price and in volume, and the drain on the central reserves reappeared. The position of sterling was further weakened by the spread of "cheap" sterling transactions in which the pound was traded at rates below $3. In the first half of 1949 the total gold and dollar deficit of the sterling area amounted to $963 million, of which $617 million was on Great Britain's account and $173 million on the account of the rest of the sterling area. The remaining $173 million, representing payments in gold and dollars to countries outside the dollar area, notably Belgium, Switzerland, Western Germany and Iran, could not be allocated between Great Britain and the other sterling area countries. Since E.C.A. aid ($669 million), drawings by Great Britain on the Canadian credit ($56 million) and by India on the International Monetary fund ($31·7 million) were insufficient to cover the deficit, the central reserve declined by $206 million.

British Commonwealth. A conference of Commonwealth finance ministers on the subject of the dollar drain was held in July and it was agreed that the necessary steps should be taken to cut imports from the dollar area by 25%. Further measures to alleviate the position of sterling, notably by increased U.S. and Canadian purchases from the British Commonwealth of strategic materials such as tin and rubber and by the broader use of E.C.A. funds for purchases in Canada, were announced after the U.S.-Canadian-British talks held in Washington, D.C., at the beginning of September. The growing opinion that devaluation was imminent, however, led importers in the dollar area both to delay payments and withhold new orders for sterling area products. Finally, with the reserves dropping below $1,400 million, the exchange rate of the pound was reduced by 30·52% from $4·03 to $2 80 on Sept. 18. The new rate was effective in all the British dependent overseas territories except British Honduras. Similar readjustments were made, either simultaneously or in the following days, in the exchange rates of all the other currencies of the sterling area with the exception of Pakistan, which, thanks largely to its exports of jute, maintained a comparatively strong position vis-à-vis the dollar area. On Dec. 31 a new par value of four British Honduras dollars to one British pound was announced with the approval of the International Monetary fund and the previous relationship between the two currencies restored.

Prior to devaluation sterling had been quoted in various financial centres at "free" rates equivalent to substantially less than $3·00. The disparity disappeared with devaluation, but by the end of the year free sterling was again being quoted at discounts exceeding 10%.

Europe. The dollar shortage persisted in most European countries except Switzerland, which continued without foreign exchange control. Thanks to E.C.A. aid and receipts of gold and convertible exchange from countries outside North America, Belgium and Italy, for example, were able to add to their gold and foreign exchange holdings. There was a striking improvement in the monetary position of France and a reappearance of substantial exports from Western Germany.

Within Europe the unbalanced economy of some countries continued to cause difficulties which were, however, mitigated by the European Payments scheme organized in 1948 within the framework of E.R.P. In Sept. 1949 the scheme was renewed with some modifications but it soon appeared likely that the distribution of established drawing rights would have to be revised, since the varying degrees of devaluation appeared likely to improve the balance of trade among the E.R.P. countries and change the net creditor and debtor positions of different countries.

A significant step towards the removal of exchange restrictions was taken in November, when the Belgian franc was made freely convertible into Swiss francs and U.S. dollars. Discussions also took place concerning the easing of transfer restrictions among various groups of countries, notably France, Italy, and Benelux (Belgium, the Netherlands and Luxembourg), but by the end of the year little had been achieved save some reductions of import quotas.

Austria and Western Germany. The currencies of both occupied countries, Austria and Western Germany, were reduced by a smaller percentage than sterling. On Sept. 19 the West German Deutsche mark was devalued by 20·6% from DM.3·33 to DM.4·2 to the U.S. dollar. Although the official rate of 10 Austrian schillings to the dollar had been in effect since the end of the war, most commercial transactions with Austria had been carried out at premium rates, the premiums varying widely according to the commodities and currencies involved. The official rate was reduced to Sch.14·40 to the U.S. dollar as from Nov. 22, and the system was considerably simplified. All export transactions were to be conducted at an effective export rate of Sch.21·36 to the dollar applicable to luxury imports and non-commercial transactions and the effective export rate applicable to all other imports.

CHANGES IN WORLD EXCHANGE RATES, DECEMBER 1949

	Country	Currency unit	Old rate per £ sterling	New rate per £ sterling	Old rate per U S $	New rate per U S $	Percentage appreciation against sterling	Percentage decrease in local price of sterling	Percentage depreciation against U S $	Percentage increase in local price of U S $
A.	United States	U S. $	4 03	2 80	1 00	1 00	43 93	30 52	—	-
	Brazil	cruzeiro	75 44	52 416	18 72	18 72	43 91	30 51	—	—
	British Honduras	B H $	4 03	2 80	1 00	1 00	43 93	30 52	—	—
	Chile	peso	124 9	86 8	31 00	31 00	43 9	30 5	—	—
	Colombia	peso	7·86	5 46	1 95	1 95	43 9	30 5	—	—
	Czechoslovakia	Čs koruna	201·5	140	50 15	50 15	43 93	30 52	—	—
	Ethiopia	E$	10 0	7 0	2 484	2 484	43 9	30 5	—	—
	Hungary	forint	47·31	32 87	11 827	11·827	43 93	30 52	—	—
	Japan	yen	1,450 8	1,008 0	360 0	360·0	43·93	30 52	—	—
	Lebanon	£L	8 83	6·13	2 191	2 191	43 9	30 5	—	—
	Netherlands West Indies	florin	7 60	5·28	1 89	1 89	43 93	30 52	—	—
	Pakistan	P. rupee	13 372	9 290	3 318	3 318	43 94	30 53	—	—
	Persia	rial	129 0	90 20	32 25	32 25	43 02	30 08		
	Philippines	peso	8 10	5 63	2 00	2·00	43 87	30 49	—	—
	Poland	złoty	1,612	1,120	402	402	43 93	30 52	-	—
	Spain	peseta	44 13	30 66	10 95	10 95	43 93	30 52	-	-
	Switzerland	Sw franc	17 35	12 2439	4 31	4 37282	41·74	29·45	-	—
	Syria	£S	8·83	6·13	2·191	2 191	43·9	30 5	-	
	Turkey	lira	11·334	7·875	2 825	2 825	43 93	30 5	—	—
	U S S R	rouble	21·35	14 84	5 30	5 30	43 87	30 49	-	-
	Yugoslavia	dinar	201 5	140 0	50 00	50 00	43 9	30 5	—	—
B.	Belgium	B franc	176 625	140	43 83	50 0	26 16	20 74	12 34	14 08
	Canada	Can $	4·03	3 08	1 00	1 10	30 84	23 57	9 09	10 00
	France	franc	1,097	980	272 2	350	11 94	10 67	21 96	28·14
	Germany (Western)	D mark	13 43	11 76	3 33	4 20	14 20	12 43	20 66	26 10
	Greece	drachma	32,000	42,000	12,000	15,000	—23 80	—31 25	26 00	25 00
	Italy	lira	2,317	1,748 4	575·0	624 4	32 52	24 54	7 91	8·59
	Portugal	escudo	100 75	80 50	25	28 75	25 16	20 10	13 04	15 00
	Thailand	baht	40 0	35 0	10 0	12 5	14 3	12 5	20 00	25 00
C.	United Kingdom	£	1 00	1 00	0 2481	0 3571	—		30 52	43 93
	Australia	£A	1 25	1 25	0 3102	0 4464	-	—	30 51	43 91
	Austria	schilling	40 30	40 32	10·14	14 40	—	—	29 58	42 01
	Burma	rupee	13 372	13 372	3 318	4 762	—	- -	30 32	43·52
	Ceylon	rupee	13·372	13 372	3 318	4 762	—	- -	30 32	43 52
	Denmark	krone	19 34	19 34	4 80	6 91	-	—	30 54	43·96
	Egypt	£E	0·975	0 975	0 242	0 348	—	- -	30 46	43 80
	Finland	markka	643	643	160	230 17	—	—	30 49	43 86
	Hong Kong	H K $	16 134	16 134	4 00	5 76		—	30 56	44 00
	Iceland	krona	26 155	26 155	6 505	9·36	—	-	30·50	43·89
	India	rupee	13 372	13 372	3 318	4 762	—	-	30·32	43 52
	Iraq	dinar	1 00	1 00	0 2481	0 3571	-	—	30 52	43·93
	Irish Republic	£	1 00	1 00	0 2481	0 3571	—	- -	30 52	43 93
	Israel	£I	1 00	1 00	0 2481	0 3571	—		30 52	43 93
	Jordan	£T	1·00	1 00	0 2481	0 3572	- -	—	30 5	43 9
	Netherlands and Netherlands East Indies	florin	10 691	10 64	2 65	3 80	-	—	30 26	43 39
	New Zealand	£NZ	1 00	1 00	0 2481	0 3571	—	- -	30 52	43 93
	Norway	krone	20 00	20 00	4 96	7 14	- -	—	30 53	43·95
	Singapore	S $	8 57	8 57	2 13	3 06	—	-	30 39	43 66
	South Africa	£SA	1 00	1 00	0 2481	0 3571	-	—	30·52	43 93
	Sweden	krona	14 485	14 485	3 60	5 18	-	—	30·50	43 89

The table shows official parities and rates quoted in foreign centres for sterling and United States dollars immediately before Sept 18 and on Dec. 28, 1949. Currencies have been classified in three broad groups A, those which did not depreciate with respect to the dollar, B, those which depreciated but to a lesser extent than sterling, C, those which depreciated to approximately the same extent as sterling Table based upon *Board of Trade Journal*. Reproduced by permission of the Controller of H.M. Stationery Office.

Benelux. The par value of Dutch currency was reduced by 30 2% to 3 80 florins, or guilders, to the U.S. dollar. In an effort to stimulate exports to the western hemisphere the Netherlands allowed Dutch exporters to retain 10% of their dollar earnings. The Belgian franc, on the other hand, which had been in a relatively strong technical position since the war, mainly as a result of Belgium-Luxembourg's continued favourable balance of payments position in relation to other European countries, was devalued by only 12·3%.

France. Preliminary estimates of the French balance of payments during the first half of 1949 calculated that the French Union deficit with the rest of the world was at an annual rate of roughly $900 million compared with about $1,700 million in 1948. The deficit with the dollar area was probably at an annual rate of about $800 million compared with over $1,000 million in the previous year. Internally, prices were stable or declining until August. The growing strength of the franc reflected this improvement in the internal and external financial position of the country. By April the black market dollar rate had dropped from above Fr.500 at the beginning of the year to about Fr.350. The revision of the exchange rate system of Oct. 1948 was maintained, with minor modifications, up till Sept. 19, 1949. On the basis of this system, non-commercial transactions in U S. dollars, Swiss francs, Portuguese escudos and, from June 10, 1949, Belgian francs were carried out at the free market exchange rate (which moved slowly upward from Fr.314·80 to the dollar in January to Fr.330·60 in September), while commercial transactions in these currencies and all transactions in other currencies took place at the average of the free market and the official rate (Fr.214·71 to the dollar).

Following the devaluation of sterling the franc was devalued on Sept. 20 and the exchange rate system unified. This

adjustment came at a particularly inopportune moment since prices had begun to rise again in August as a result mainly of the summer drought, and concurrently union demands for wages grew. From Sept. 20 all transactions were conducted at the equivalent of the free market rate for the dollar which was initially at Fr.350 but thereafter appreciated slightly. Thus for non-commercial transactions in hard currencies the franc depreciated by only 5·7% in terms of the dollar, while for all other transactions it depreciated by 22·3% in terms of the dollar and appreciated by 11·9% in terms of sterling. The free market rate continued to be controlled by the French monetary authorities.

Greece. In Greece the official rate for the drachma of 5,020 to the dollar and the certificate system of exchange rates under which exporters sold foreign exchange certificates to importers in the open market remained in effect. Before the devaluation of the pound sterling exchange certificates were quoted at a level which gave an effective sterling/dollar cross rate of about $3·20 or 79% of the official parity. However, the Bank of Greece announced new certificate rates, to be effective from Sept. 22, (which could be controlled through the issuance of permits for the purchase of foreign exchange) giving effective exchange rates of 15,000 drachmas to the dollar and 42,000 to the pound.

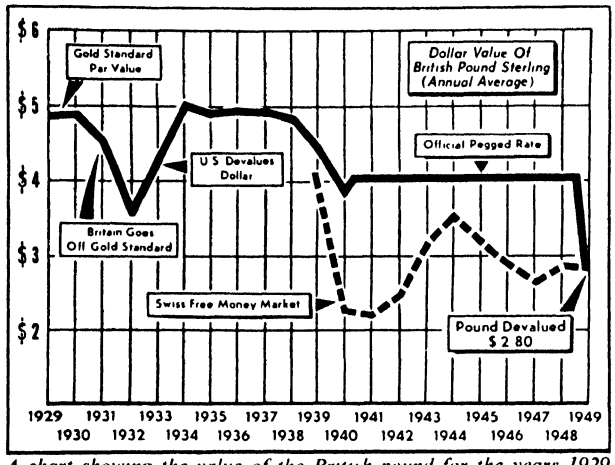
Italy. In Italy the system of exchange rates introduced in 1947, and modified on Nov. 26, 1948, to peg sterling quotations to the dollar at the cross rate of $4·03 to the pound sterling continued in effect until the devaluation of sterling. Thereafter the procedure by which exporters sold half their foreign exchange proceeds at the official rate and half at the free rate, while importers carried out all transactions at the free rate, was continued. The official rate was now determined daily, however, by the average of the closing free market quotation in Rome and Milan rather than monthly by the average free rate in these markets for the previous month. Thus a wide differentiation between the official and free rates was hardly possible any more. The lira was then allowed to depreciate from L.575 to about L.628 to the dollar in the free market—which the monetary authorities controlled in much the same way as in France. Thus the lira depreciated by about 8% in relation to the dollar and appreciated by about 32% in relation to sterling.

Portugal. On Sept. 22 Portugal devalued the escudo by 13·1% with respect to the dollar so that its currency appreciated by 25% with respect to sterling.

Scandinavia. Denmark, Finland, Norway and Sweden followed sterling and devalued their currencies by 30·5%. Finland was in a somewhat special position. Faced with high domestic costs and declining export prices for pulp and other wood products, its principal exports, it had previously devalued its currency by 15% on July 5. Thus in the latter half of the year the markka lost 41% of its dollar exchange value, falling from 136 to 231 to the dollar.

Spain. After the devaluation of sterling Spain retained its basic buying and selling rates of 10·95 and 11·22 pesetas to the dollar respectively, but altered its various special import rates by 30·5% and its special export rates by amounts varying from 7 to 42%.

Switzerland. The Swiss franc, alone among western European currencies, was not devalued. With gold and dollar assets exceeding $2,000 million at the end of August, and increasing to such an extent that the monetary authorities had refused to convert dollar assets and adopted a gold sterilization policy to control the inflationary effect of an inflow of foreign exchange, there was no need to change the official parity. However, shortly after sterling devaluation the central bank decided to buy all dollars at the official rate, and the " finance dollar " market, in which the dollar had been quoted at a discount of about 8%, disappeared.



A chart showing the value of the British pound for the years 1929-1949 as compared with the United States dollar and the Swiss franc.

Eastern Europe. The exchange rates of Albania, Bulgaria, Czechoslovakia, Hungary, Poland, Rumania, and Yugoslavia, like that of the U.S.S.R., remained unchanged throughout the year. On May 24 the existing exchange rate of 50 Yugoslav dinars to the U.S. dollar was approved by the International Monetary fund.

Middle East. There was little change in exchange control regulations in the middle east in 1949. Besides *Iraq*—which remained within the sterling area—two former members of that group, *Egypt* and *Israel*, followed the British example and devalued their currencies by 30·5%. In both cases the prime motivation for the action lay in the importance of sterling in their foreign exchange assets and in their dependence on the sterling area as a market for their exports. As regards Israel, the devaluation hardly affected imports and financial transactions with hard currency countries since these had been conducted at buying and selling rates of U.S. $3·015 and U.S. $2·986 to the Israeli pound ever since the new state had been established. The other middle eastern countries, Persia, Lebanon, Syria and Turkey, did not change the par values of their currencies despite the close relations (especially of Persia and Turkey) with sterling and the orientation of much of their trade to countries which did devalue.

Persia made some changes in its certificate exchange rate system. From Jan. 16, 1949, three rates were in use. The official rate, 32·50 rials to the U.S. dollar, was applicable to government requirements, imports of sugar, and, from Feb. 13, to non-trade receipts. The Anglo-Iranian Oil company purchased rials for local expenditure at the buying rate of 32 00 to the U.S. dollar. The official plus certificate rate, which declined from 53 88 rials to the dollar in January to 46·19 in October, was used for all other imports except machinery and essential consumers' goods. In addition to rials at the official rate, certificates were issued to exporters and could be sold in the free market to importers or others authorized to buy foreign exchange. After the devaluation of sterling, the certificate rate for the pound dropped to about 112 rials to the pound, giving a dollar/sterling cross rate of U.S. $2·44.

Syria and *Lebanon*, with identical monetary units and a common bank of issue, also maintained the existing official par values of their currencies. To encourage exports a regulation was issued, taking effect from Sept. 26, restricting the use of the official rate to 10% of the proceeds of non-trade transactions.

The decision of *Turkey* not to devalue was probably influenced by several factors. The devaluation of sterling considerably reduced the burden of its foreign debt.

Far East. *China.* In May the exchange clearance certificate

system was abolished and an exchange deposit certificate system introduced, under which deposit certificates were issued, amounting to 80% of the foreign exchange deposited with the Central bank or appointed banks. These certificates, which also served as import licences, were sold in the open market to those desiring exchange. In a further effort to halt the runaway inflation a new currency unit, the silver yuan, was established. Its exchange value was set at 1·55 to the dollar but was subsequently reduced to 1·45. However, the rapidly deteriorating political and military situation rendered all attempts at monetary and financial stabilization futile.

Thailand. In September a new official rate of 12·5 baht to the dollar and 35 to the pound was established, representing a depreciation of 20·6% against the dollar and an appreciation of 14% in relation to sterling. Exporters of rice, rubber, and tin were required to sell varying portions of their exchange proceeds at the official rate and were allowed to dispose of the remainder in the free market. As regards imports the official rate was applicable almost exclusively to fuel oil. Other payments were made through the free market at 21-22 baht to the dollar. Before the devaluation of the pound free market sterling was quoted at 62 to 66 baht, giving a dollar/sterling cross rate of $2·81 to $3·06. Thereafter, however, the disparity narrowed, the free rate dropping to 57 baht, giving a cross rate of $2·64.

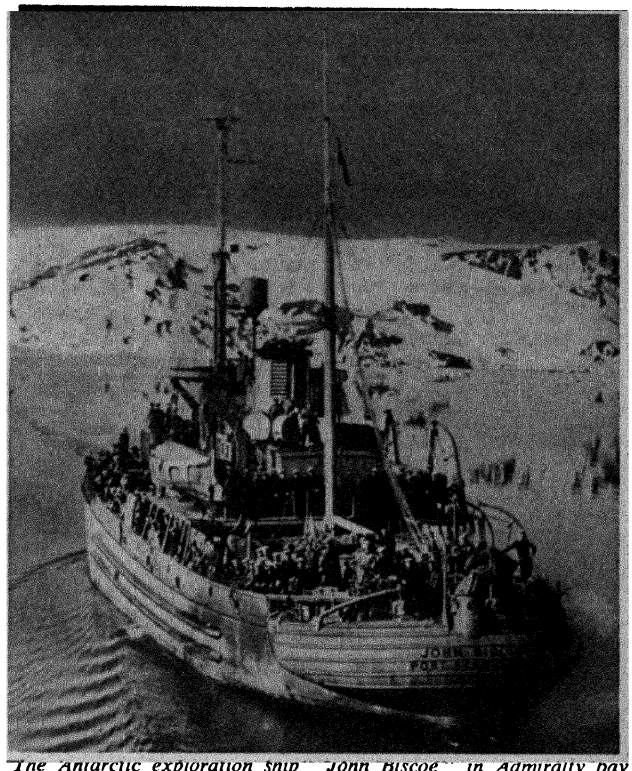
Philippines. The import restrictions imposed toward the end of 1948 did not have the desired effect and, despite U.S. aid estimated at about $200 million, excluding U.S. army and navy expenditures, foreign exchange reserves declined from $400 million at the end of 1948 to $279 million at the end of Sept. 1949. To stop this drain more drastic import controls were introduced at the end of November, and as from Dec. 9 a licence from the Central bank was required for all transactions in gold and foreign exchange.

Japan. On April 25 an official exchange rate of 360 yen to the U.S. dollar was established for all foreign exchange transactions permitted. For important export products such as textiles, this had the effect of devaluing the yen. (*See* also INTERNATIONAL MONETARY FUND.) (A. STN.)

EXHIBITIONS: *see* FAIRS, SHOWS AND EXHIBITIONS.

EXPLORATION AND DISCOVERY. The Antarctic continent, still so largely unknown, continued to be the premier field of exploration (*see* ANTARCTICA). Ice conditions in the southern summer of 1948-49 were responsible for two major set-backs: the French expedition to Adélie Land, delayed on its voyage south, was unable to effect a landing and returned to Europe—to sail again later in 1949; in Graham Land the leader of the Falkland Islands Dependencies surveys and a sledge party, who were to have returned to Europe from Stonington Island in Jan. 1949, were obliged to winter there another year as their ship was unable to proceed so far south. The Norwegian-British-Swedish expedition sailed for Queen Maud Land in the "Norsel" on Nov. 23.

In Greenland, the Danish Peary Land expedition under Count Eigil Knuth continued its work in the far north. The expedition ship again sailed from Denmark with supplies, and the parties in the field were maintained by means of flying boats, as in previous years. The French expedition to west Greenland under Paul-Emil Victor, sent out in 1948 by the Expéditions Polaires Françaises organization, had a very successful year. In 1948 they had assembled at the edge of the inland ice above Disko sound a considerable concentration of equipment and supplies, including the tracked snow-vehicles "weasels" on which the expedition relied for its ground transport. This operation had involved a formidable programme of road-making and the construction of a telpher cable-way. The members of the expedition, who had returned to France when that task was complete,



The Antarctic exploration ship "John Biscoe" in Admiralty bay with members of the crew of H.M.S. "Sparrow" on board. She returned to England during 1949, and left for the Antarctic on Oct. 11, reaching Port Stanley, Nov. 14, and Deception Island on Dec. 2.

were back in Greenland early in the summer of 1949 and, finding their equipment intact, set out for the interior of the ice cap, their destination being the central station occupied for a year by Alfred Wegener's German expedition of 1930-31. This they reached in the middle of July, assisted by supplementary supplies and spare tracks for the weasels, which were parachuted to them from aircraft based on Iceland according to a pre-arranged programme. A new central station was established and a party of eight men remained to winter there and maintain meteorological and glaciological observations. They were to be relieved in the summer of 1950.

The British university expeditions which visited the Arctic in 1949 are mentioned elsewhere in this article. Peter Scott led a small expedition to the Perry river in northern Canada primarily to study the breeding and migration of birds and discovered the only known nesting place of Ross's Snow Goose. The party travelled from Winnipeg by air and returned in the same way, demonstrating again that much of the Arctic and its fascinating problems are not beyond the reach of those who dwell in the world outside. The same means of access was adopted on an expedition to the coast range of British Columbia led by C. H. Pelham-Burn. He had intended to alight by amphibian plane on Tide lake in this little known mountain land but found that, impounded by a glacier dam, it had largely drained away; and he was obliged to use Bowser lake nearby as his base. The party included a botanist and a surveyor and much new ground was mapped by plane-table and biological collections were obtained.

The year 1949 witnessed a renewed interest in Himalayan travel. An expedition led by Dr. Dillon Ripley and sponsored jointly by the National Geographic society, Yale university and the Smithsonian institute, returned in March 1949 from four months' travel among the Nepal foothills of the Everest range. They had made extensive biological collections and

secured some remarkable photographs of the Everest group from the southeast, revealing a panorama that had certainly not been photographed before except from the air. Later in the summer H. W. Tilman led an expedition to Nepal. His main object was to climb, but at the instance of the Nepal government the party included a botanist and a geologist and was equipped to make photogrammetric surveys. It had been hoped that by ascending the frontier range the survey photographs would cover a hitherto unmapped region of Tibet. Intervening ridges curtailed the view but material was obtained for extensive revisions to the existing sketch-maps of the Langtang Himal range in Nepal. Bad weather greatly interfered with the climbing programme but two peaks were conquered, the higher, Paldor, being 19,450 ft. high. Extensive biological and geological collections were obtained. There was every reason to hope that the welcome extended to these two expeditions by the Nepalese authorities would encourage further scientific work in the area.

Wilfred Thesiger made a further notable journey in southern Arabia in 1949, through the barren steppes and deserts that lie inland of the Oman mountains. The interior of Oman had remained unvisited by Europeans from 1901 until Thesiger himself crossed a part of the area in 1946 and the prevailing disorder in this part of Arabia had greatly increased the difficulties of travel. Leaving the oasis of Buraimi in the north of Oman in Nov. 1948 with his Arab travelling companions of former years, he was intending to visit the great quicksands of Ummal Samim. In this endeavour the prevailing state of suspicion and disorder served his turn; for the *bedawin* forbade his party to travel through their territories nearer the mountains and insisted that he should skirt the very quicksands that he wished to see. The Ummal Samim is a depression which retains the infrequent run-off of the Oman mountains, extending from northwest to southeast a distance of 95 mi., and is undoubtedly capable of engulfing man and beast, particularly when the water table beneath the treacherous surface has been raised by recent rain in the mountains. From the Ummal Samim he continued his journey to the southeastern coast of Arabia and returned to Buraimi along the western flank of the Oman mountains. He also traversed the Liwa oasis to the west of Buraimi, unvisited by a European until Thesiger had himself passed through it in 1948. He left England for a further journey in Oman at the end of 1949.

Other expeditions to Arabia were the University of California expedition which was to work in the Hadramaut, Dhofar and possibly in Oman also, its interests being chiefly archæological; and a British party which was to study the breeding places of the locust in northern Oman. Unlike Thesiger these parties were to depend on modern mechanical transport and not on the camel, though this might well limit their radius of action.

As is now usual, a number of summer expeditions from British universities were in the field. The Arctic, relatively accessible from Europe and offering a still unexhausted field for geographical research, attracted most of the attention. A Cambridge geological expedition worked in Spitsbergen, an Oxford expedition in North East Land and a Durham university expedition in Iceland where the unusually wet summer greatly hampered their movements. W. R. B. Battle returned to northeast Greenland, a passenger in the Danish Peary Land expedition's ship, to continue his glaciological work of 1948, and succeeded in penetrating to a distance of 500 mi. beneath a glacier, along the bed of a sub-glacial stream, to study the crystalline structure of the ice. A party from Birmingham university worked in northern Norway. Outside the Arctic, two Oxford expeditions went to Africa: one to Mount Kenya principally to study the forest botany of that mountain, and one to Portuguese Guinea to make biological collections. Cambridge parties worked in Algeria and in Spain. A party of over 60 schoolboys made maps in northern Norway.

Noah's Ark, though fast aground these many years, continued as elusive a ship as the Flying Dutchman and more than one party set out in 1949 to look for her on Mount Ararat. (F. GE.)

EXPORT-IMPORT BANK OF WASHINGTON.

Created in 1934, the bank was made a permanent independent agency of the U.S. government by the Export-Import Bank act of 1945, approved July 31, 1945.

Its purpose is not only to facilitate the financing of U.S. exports but to assist in the financing of development projects in foreign countries which will increase their productive capacity and step up their exports, thereby improving their foreign exchange situation and making them better suppliers of those materials and goods needed for import into the U.S. Its financing is generally limited to the dollar cost of U.S. materials, equipment and services required for development projects in foreign countries.

The bank is empowered to lend to U.S. exporters and importers and to private entities in other countries as well as to foreign governments. It finances specific export and import transactions on application of U.S. exporters and importers where the nature of the risk involved is such that private credit cannot be obtained and when, in the opinion of its board of directors, there exists reasonable assurance of repayment. It also arranges, in favour of foreign purchasers, credits which are available on equal terms to all qualified U.S. exporters for financing the sale of U.S. export staples such as raw cotton.

The total amount of loans authorized by the bank from the time of its establishment in 1934 approximated $4,513 million at the end of 1949. Disbursements during 1949 were approximately $185 million and repayments during 1949 were approximately $144 million. Outstanding loans of the bank totalled $2,179,585,274 at the end of 1949. (S. SD.)

EX-SERVICEMEN'S ORGANIZATIONS.

In most countries ex-servicemen's associations continued to work for better pensions for the disabled and dependants of the fallen; but in countries under Soviet domination the process of abolishing existing unions by absorbing them in single Communist-led organizations was practically concluded.

Great Britain. *British Legion.* In Sept. 1949 the membership of the British legion was over a million; there were 5,500 branches, some of them in the British communities abroad, and 3,000 branches of the women's section. The welfare work of the legion was effected through the 4,800 service committees composed of members of the legion, and representatives of kindred bodies, such as S.S.A.F.A (Soldiers', Sailors' and Airmen's Families association), the Forces Help society, the Red Cross and regimental associations.

These committees dealt with the problems of ex-service men and women, concerning pensions, employment and rehabilitation generally, and some idea of the extent of their work may be gathered from the fact that in 1949 they gave advice and assistance on an average to 3,000 men and women every day.

The legion's main source of income was derived from Poppy day and it acted as a trustee for the Earl Haig fund, which it administered and applied generally for the benefit of all ex-service men and women, whether they were members of the legion or not. Apart from the individual welfare work of the legion, it brought its influence to bear on behalf of all ex-servicemen, wherever their interests might be affected, and its authority to speak on their behalf was clearly recognized by the fact that it was represented on all important advisory

bodies concerned with welfare and rehabilitation. It brought constant pressure to bear upon the Ministry of Pensions in the interests of widows and dependants and those disabled in war, and was successful in obtaining a revision of a number of pension regulations. In the year 1948-49, headquarters and area offices dealt with 28,334 new cases which required negotiation with the Ministry of Pensions, and at appeals tribunals and special courts the legion represented 21,145 cases which had previously been disallowed by the ministry.

The total cost of legion welfare and benevolent services in the year 1948-49 amounted to £1,135,197. Some of the principal items which were included in this expenditure were, relief of temporary needs, help to the permanently incapacitated, maintenance of six country and convalescent homes, weekly allowances for special foods, etc., for those suffering from chronic illness. Money was also spent on assisting ex-servicemen to purchase homes and to start businesses.

The Ministry of Health had already taken over the three legion sanatoria, but the village and rehabilitation centre at Preston hall in Kent remained the property and responsibility of the legion. Although the state had instituted many welfare schemes, there were still many anomalies and cases which no government department had the machinery to handle and it was in this respect that the legion was able to help so many ex-service men and women. The operation of these state schemes enabled the legion to concentrate on the more permanent forms of rehabilitation.

Sir Ian Fraser, M P., and Lieutenant Colonel C. Gordon Larking were re-elected president and national chairman respectively at the British legion annual conference held in May at Yarmouth. (J. C. As)

The Commonwealth. The British Empire Service league, representing over two million ex-servicemen and women throughout the Commonwealth, held its 10th biennial conference at Ottawa, Sept. 11-17. Ex-servicemen organizations, usually called legions, not only from all members of the Commonwealth of Nations and crown colonies but also from the independent republics of Ireland and Burma were represented at the conference which was opened by Field Marshal Viscount Alexander of Tunis, grand patron of the Canadian legion. He emphasized the need for the closest possible co-operation not only between the nations of the Commonwealth but also with the United States of America and other people of good will. He welcomed the presence of representatives of the American legion and the Veterans of Foreign Wars of the United States. In a message to the conference, Earl Mountbatten of Burma, the grand president, who was unable to attend because of his duties, said that a sense of strength, through a real desire for unity, was reflected in the recent adherence to the league of new constituent associations in West Africa and the West Indies.

In a discussion on the attitude of ex-servicemen towards Communism Milton F. Gregg, Canadian minister for veterans' affairs, said that ex-servicemen might be able to produce the greatest bulwark against the inroads of Moscow-inspired unrest in the countries of the Commonwealth. The representatives of the Australian legion submitted a resolution seeking to get all league member-organizations to ask their governments to declare Communist parties illegal. Delegates from British, Canadian, New Zealand and South African legions, while approving the resolution in principle, did not think such representations would serve any useful purpose. The resolution was defeated.

During a debate on migration the conference approved a resolution proposed by the British legion delegation (headed by Lieut. Colonel C. Gordon Larking, chairman, and Lord Cromwell, honorary treasurer) that everything possible should be done to maintain a constant flow of emigrants from the United Kingdom to the various parts of the Commonwealth. Lieutenant General Sir John Brown was elected chairman of the empire council and Major E. S. Harston re-elected honorary secretary.

Europe. The most active European movement of ex-servicemen and that with the largest membership continued to be that of France. The Union Française des Associations des Combattants (U.F.A.C.) held its general annual assembly in Paris on Feb. 5-6, 1949. It consisted of 48 large and small associations with a total membership of 2,088,889, the largest being the three traditional organizations founded at the end of World War I, the Union Fédérale (391,334 members), the Union Nationale des Combattants (296,007) and the Communist-controlled Association Républicaine des Anciens Combattants (165,385), and the two offshoots of World War II: the Anciens Combattants des Forces Françaises de l'Intérieur (146,779) and the Fédération Nationale des Déportés et Internés (109,376). There were only two important organizations outside the U.F.A.C.: the Association " Rhin et Danube " grouping the ex-servicemen of the 1st French army which landed in the south of France in Aug. 1944, and the Fédération Nationale des Prisonniers de Guerre 1939-45. Between the latter and the U.F.A C. a difference arose over the conditions under which a *carte du combattant* should be accorded to ex-servicemen of World War II. The U.F.A.C. protested against the decree of May 4, 1948, fixing the conditions under which a former prisoner of war would qualify for an ex-servicemen's card. The U.F.A.C. held that no one should be accorded a card who did not actually fight at the front for at least 45 days. The government partially yielded to the pressure of the U.F.A.C. and on Dec. 24, 1949, a new decree was published stipulating that a prisoner of war could apply for an ex-serviceman's card if he belonged to a combat unit before or after his capture and if he was detained for a minimum of six months in enemy-occupied territory or 90 days in enemy territory. The point in dispute was both moral and material because only an ex-serviceman with a card was entitled to the *retraite du combattant* or ex-serviceman's gratuity (*see* WAR PENSIONS). Léon Viala was re-elected chairman of the U.F.A.C.; Maurice de Barral, former secretary general, became one of the four vice-chairmen, and the new secretary general was Albert Morel.

In Poland three Communist-led ex-servicemen's organizations were merged in Warsaw on Sept. 1-2, 1949, in a single Union of Fighters for Freedom and Democracy (Związek Bojowników o Wolność i Demokrację) of which the premier, Józef Cyrankiewicz, became president and General Franciszek Jóźwiak chairman, both being members of the Politburo of the United Workers' (Communist) party. The merger convention was considered important enough to invite from Germany Wilhelm Pieck who declared that the Oder-Neisse line was the frontier of peace and collaboration between Poland and the new Germany. Another speaker was Colonel Henri Manhès, a French Communist and chairman of the Fédération Internationale des Anciens Prisonniers Politiques (F.I.A.P.P.), who alleged that the French government were betraying the ideals of the wartime resistance movement. From June 23 the Polish War Disabled union (Związek Inwalidów) had a new president, Tadeusz Cwik, a Communist trade union leader; Colonel Leon Łustacz was re-elected chairman.

In Western Germany an Interessen-Gemeinschaft Ehemaliger Soldaten was created in the autumn. (X.)

United States. During 1949 there was a continued drop in the over-all membership of veterans' organizations in the United States. Approximately 5 million veterans were organized, a drop of 3 million from the 1946 peak. Four-fifths of this membership was in the American legion and Veterans of Foreign Wars.

American Legion. The American Legion had in 1949 about 3 million members. During the year it emphasized

strong support of a broad housing programme aimed at getting more homes at better prices for veterans; continued its drive against Communism by urging repressive legislation and holding seminars for its members concerning the nature of Communism. At its 1949 convention held in Philadelphia, the legion for the first time elected a World War II veteran as National commander, George N. Craig of Brazil, Indiana. The convention adopted resolutions supporting the United Nations, the European Recovery programme and the North Atlantic treaty and advocating a Pacific pact, aid to Nationalist China, universal military training and civil control of atomic energy.

Veterans of Foreign Wars. This organization of 1,130,000 members also elected in 1949 for the first time as its national commander a World War II veteran, Clyde Lewis of Plattsburg, New York. The 1949 programme of the V.F.W. again emphasized support of a federal bonus with a maximum of $4,000.

Disabled American Veterans. Under the leadership of its national commander, General Jonathan Wainwright, the D.A.V. in 1949 increased its membership to 141,361, the largest in its history. Its 1949 convention, held at Cleveland, Ohio, elected David M. Brown of Akron, Ohio, as national commander and once again emphasized the D.A.V. programme of increased aid to disabled veterans and their families.

American Veterans of World War II. The "Amvets" at its 1949 convention held at Des Moines, Iowa, elected as its new national commander Harold Russell, handless star of the film *The Best Years of Our Lives.* The two big issues facing the organization during 1949 were a proposed merger between "Amvets" and the other World War II veterans' organization, the American Veterans' committee, and a federal bonus for World War II veterans. While a majority of the national leadership were for a merger and against the bonus, rank and file delegates to the convention defeated both proposals.

American Veterans Committee. The membership of this organization dropped to about 30,000 in 1949, but through modified organizational policies it improved its financial position. It again called for a full civil rights programme, support of the European Recovery programme and the North Atlantic treaty and increased housing and health legislation. It opposed a federal bonus.

In addition to the above organizations, numerous other groups were active. Most important of these were the Air Forces association, Army and Navy union, Jewish War Veterans, Catholic War Veterans, Regular Veterans association and Military Order of the Purple Heart. (R. A. B.)

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EYE, DISEASES OF THE. Sulphonamides continued to be employed in the treatment of local and systemic eye infections with few serious secondary reactions. That the use of sulphonamides could produce changes in the eye had been demonstrated by the production of slight cloudiness of the aqueous humour and transient myopia. Objective stigmatoscopy showed that in many cases refractive changes toward myopia occurred axially. Since the myopia must depend on a change in the lens it seemed probable—as in diabetic changes of refraction—that this is localized in the nucleus of the lens. The actual pathogenetic mechanism, however, remained obscure; probably the change is in some way allergic.

The increase in the number of diabetics continued, and the number suffering from diabetic retinopathy further increased in comparison. The increase in proliferative retinopathy was particularly pronounced. One-third of the patients with diabetic retinopathy had normal blood pressure (that is, less than 130 mm. of mercury systolic); these were to be found among the younger patients. More than one-fourth of the patients with retinopathy were affected by this before five years had elapsed from the time when the diabetes started. Patients less than 50 years of age when their retinopathy was diagnosed had been affected with diabetes only for a short time; they seemed to be particularly susceptible to retinopathy. The proliferative retinopathy takes longer to develop than the common retinopathy, probably because some of them pass through a non-proliferative preliminary state. Possible reasons for the increasing frequency of diabetic retinopathy are insufficient insulin treatment and the introduction in the 1930s of the free diet.

By the use of a new staining technique (fuchsin-sulphite reagent of Fuelgen) which had become available for the visualization of the blood vessel walls in preparations of the whole unsectioned retina, it was possible to see and determine the nature of small hæmorrhagic spots in the retina, seen particularly in diabetes by use of the ophthalmoscope. Flat preparations of the retina in cases of diabetic retinitis showed great numbers of capillary aneurysms. The aneurysms always have both an afferent and an efferent connection and are therefore true aneurysmal dilatations, not endothelialized petechiæ which would be connected to the vascular tree by a single channel. In some capillaries tiny knuckles can be seen in the walls, possibly representing the first stage of aneurysm formation. The aneurysms are most frequent in the central retinal region but occasionally can be found quite far out in the periphery. Similar capillary aneurysms occasionally are seen in cases of retinal disease in non-diabetics, but they are quite rare. By the technique applied, any cellular component that contains carbohydrate is stained red. By this preparation the internal limiting membrane stains brilliantly, showing that this structure is a definite entity and not a condensation of the vitreous surface, as had sometimes been supposed.

The use of tracer elements in the treatment of diseases of the eye had been proposed since the discovery, by the means of radio-autographs, that the concentration of these elements can be estimated. A series of radio-autographs was made in connection with a comprehensive study of the exchange of phosphate between the blood and the eye. Radioactive phosphorus (P^{32}) was injected intra-peritoneally into guinea pigs. The animals were killed after an experimental period of one to one and a half hours, whereafter the eyes were frozen and sectioned. The sections were placed in contact with photographic film which was darkened by the radioactive material. The pictures obtained in this manner gave a direct indication of the newly introduced phosphate in the eye at the moment of death.

Granulomatous diseases of the eye, such as brucellosis, syphilis and tuberculosis were treated with doses of manganese, copper, cobalt, zinc, magnesium and iodine with encouraging results. (W. L. Be.)

EYSKENS, GASTON, Belgian statesman (b. Lierre, April 1, 1905). After qualifying in political and social service at the University of Louvain and Columbia university, New York, he was appointed in 1931 professor of economics and public finance at the former. He entered politics as a Christian Democrat and on April 2, 1939, was elected a member of the Chamber of Deputies; after the liberation he was re-elected on Feb. 17, 1946, and on June 26, 1949, his name was included in the Christian Social party list. He was appointed minister of finance in the first Achille Van Acker cabinet (Feb. 1945-March 1946), and in the two successive Paul-Henri Spaak cabinets (March 1947-Nov. 1948 and

Nov. 1948-Aug. 9, 1949). On Aug. 10, 1949, he formed a coalition government of nine members of the Christian Social party and eight Liberals (*see* BELGIUM).

FAEROE ISLANDS (FAERÖERNE), a self-governing part of the kingdom of Denmark in the north Atlantic situated between Iceland and the Shetland Islands, about 200 mi. N.W. of the latter. Area: 540 sq. mi.; there are 21 islands, excluding small rocks and reefs, of which 18 are inhabited. Population: (Nov. 5, 1935 census) 25,744; (Dec. 31, 1945 census) 29,198. The capital is Thorshavn, on the island of Strömö (pop., 1945, 4,390). Language: Faeroese, akin to Icelandic rather than to Danish. Religion: Lutheran.

History. The King and Queen of Denmark visited the Faeroes, July 20-24. After the new constitution was brought into force (April 1, 1948) the islands, formerly an *amt* (county) of Denmark, began to enjoy a large measure of home rule, and a Faero flag was adopted. A member of the Danish Finance committee which visited the Faeroes in Aug. 1949 reported that the Independence party (Sjálvstýrisflokkur) was now more friendly towards Denmark. The islands could not, in fact, support out of their own reserves the Danish system of education, social security and state health service to which they had become accustomed as a Danish province.

The population continued to increase and living standards were comparatively good, but by Feb. 1949 the cost of living index (269) dropped a little from its high point (283) in April 1945 (July 1939=100). High costs, especially in wages, and the import levy of 10% on fresh fish landings in the United Kingdom put many trawlers in a difficult position and spurred on attempts to shift the emphasis from a simple fishing economy to a more industrialized state, based on sea fisheries and coal.

Meanwhile, a marked cultural renaissance expressed in poetry and music continued to accompany the movement towards autonomy. The late Petur Alberg's setting of Símun av Skardi's *Tú alfagra land* was adopted as the national anthem.

Education. The Faeroes are included in the educational system of Denmark (*q.v.*), but whereas Danish was formerly the language of school, church and law, from 1948 teaching was carried on in Faeroese, and the whole bible was made available in the native language, in which literature was reviving on a basis of folk ballads.

Agriculture and Fisheries On the 2·5% of the land considered cultivable barley, oats and potatoes were grown for the islanders' own use, while plentiful grass and hay supported about 80,000 sheep and 5,000 cattle (1949). In 1930, 7,238 Faeroese were independent fishermen, 654 combining fishing with agriculture or industry. In 1944, 44,484 metric tons of fish were caught worth Kr.45,576,000. Whale-fishing was growing in importance, at the expense of feather-collecting, and, in 1947, 218 finwhales and 1,798 caaing-whales were caught.



King Frederik and Queen Ingrid leaving Copenhagen on a visit to the Faeroe Islands, July 1949.

Industry. Brown coal mined on the mountain slopes of Rangabotn and Kvalbo provided for the islands' own needs in fuel; but deposits on Süderö, estimated at about 100 million tons, remained unexploited through lack of modern machinery. In addition to the existing small shipyard, wool mills, whale oil and herring factories, a new canning industry had been started in Klakkavik.

Foreign Trade. On the exhaustion of the Faeroes' sterling balances (April 1948), sterling imports were restricted to essential goods and the islands returned to their traditional markets, selling salt cod and other fish products at high prices to Italy and Spain *via* Denmark, and buying consumer goods from Italy instead of the U.K. In 1947 exports were (in metric tons): salt fish 21,685 (worth Kr.34,695,000) and dried fish 717 (Kr. 2,152,000), both going largely to Italy; liver oil 953 (Kr. 2,950,000) and woollen products 54·4 (Kr.2,041,000), all to Denmark; fresh fish 26,743 (Kr.23 million), all to Great Britain. Imports (1947) were: machines, apparatus and transport material (Kr.5,950,000). more from Denmark than from the U.K.; clothing, hats, shoes, textiles generally (Kr.12,670,000), largely from the U.K.; metal manufactures (Kr.2,587,000), about equally from both countries; dairy products and eggs (Kr.2,275,000), all from Denmark.

Transport and Communications. By 1949 there were 38 Faeroese-owned trawlers (not long before World War II, only one). In 1945, 61 ships (totalling 24,212 NRT) called at the Faeroes, including 32 British. In addition, 455 non-Faeroese fishing-boats put in at Faeroese ports in 1945, including 412 British. During World War II, one-third of the Faeroese fishing fleet was destroyed by enemy action but it was fully re-habilitated. indeed expanded, by 1949.

Finance and Banking. Soon after the occupation of the islands by British forces in May 1940, the Faeroes became part of the sterling area. When the £3 million wartime accumulation (from sales of fish to the U.K.) had been spent on fishing fleet reconstruction, the islands rejoined the Danish monetary area (Nov. 1948), an Anglo-Danish agreement leaving the Faeroes control over their own sterling earnings, Denmark making sterling available to cover the islands' outstanding debts and direct trade between the Faeroes and the U.K. being permitted to continue. During 1949 it was announced that the Danish National bank would issue special Faeroese currency, the Faeroese *krona* (at par with the Danish *krone*) to be covered by Danish kroner deposited in the Danish National bank.

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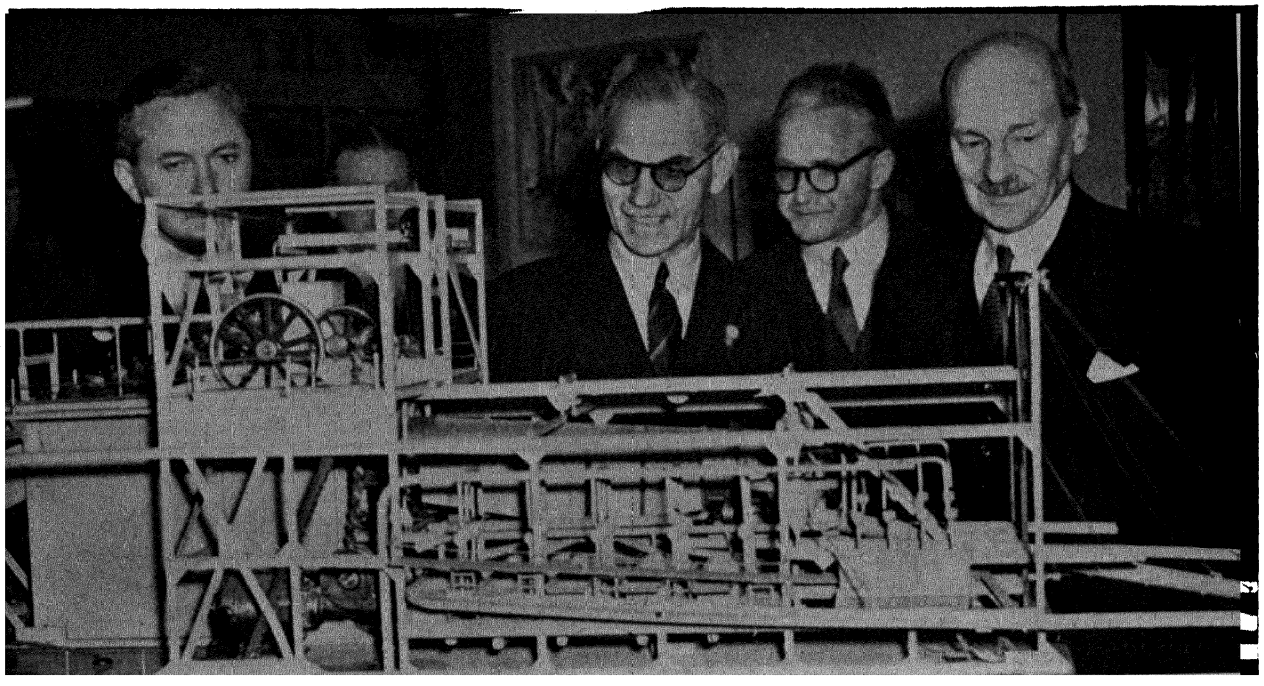
FAGERHOLM, KARL AUGUST, Finnish statesman (b. Sjundeå, Finland, Dec. 12, 1901), was appointed prime minister of a Social Democratic cabinet on July 29, 1948. (For his career see *Britannica Book of the Year 1949.*)

Replying to an accusation in a Moscow newspaper, he denied at Tampere, on March 6, that there had been any discussion of Finland's engaging in either the North Atlantic treaty or the suggested Scandinavian defence pact. On June 15 the parliament renewed its confidence in his government by a majority of two votes. This was the outcome of the fifth parliamentary attack against Fagerholm staged by the Communist party. On Aug. 22 he said that the series of strikes started by the Communists three days before were the largest and best prepared attack against the community in Finnish history.

FAIRBANKS, DOUGLAS ELTON, JR., U.S. actor and producer (b. New York city, Dec. 9, 1909), was educated in Pasadena and Los Angeles, California, and New York city, then studied painting and sculpture in New York city. In 1929 he married the actress Joan Crawford, but they were divorced in 1933. In 1939 he married Mary Lee Epling Hartford. A stage and screen actor since 1923, Fairbanks eventually took on some of the swashbuckling roles that had made his father, Douglas Fairbanks, Sr., famous. Among his more famous films were *Stella Dallas, Outward Bound, Morning Glory, Angels Over Broadway, Dawn Patrol, Little Caesar* and many others. He had appeared on the stage and screen in Great Britain as well as in the U.S., and frequently spent much time in the British Isles.



The prime minister, Clement Attlee (right) inspecting a model of a tin dredger at the British Industries Fair, at Earls Court, London, May 1949. On left is the president of the Board of Trade, Harold Wilson, and in centre is the agent for Malaya, W. A. Ward.

Early in World War II he became national vice-chairman of the Committee to Defend America by Aiding the Allies. He was active in the British War Relief association, 1939-41. Later in 1941 he went to South America as a special envoy of President F. D. Roosevelt, and on returning received a commission in the United States naval reserve. He served in many areas and several engagements and ended the war as a commander in the naval reserve. In March 1949, the British Consulate in Los Angeles announced that the King had appointed Fairbanks an honorary K.B.E. largely in recognition of his work on behalf of Anglo-American friendship and especially as chairman of Co-operative for American Remittances to Europe (C.A.R.E.). Fairbanks was invested by the King on July 12 at Buckingham Palace.

FAIRS, SHOWS AND EXHIBITIONS. During 1949 trade fairs and exhibitions in Great Britain attracted more exhibitors, buyers and members of the public than in previous years. The most important of all—the 28th British Industries fair—which as before was held at Olympia and Earls Court, London, and Castle Bromwich, Birmingham—had 3,200 exhibitors. There were 17,061 overseas buyers, 124,555 home buyers and 111,388 public visitors.

British traders supported many trade fairs in Europe. The 53rd Utrecht autumn industrial and agricultural fair had 3,056 exhibitors, of which 324 were British, heading the list of foreign countries. More than 150 manufacturers were represented in the British pavilion at the international fair at Izmir (Smyrna), Turkey. This was the first time the pavilion had been organized by the British chamber of commerce in Turkey. The Board of Trade officially participated in the trade fair at Poznan, Poland, the St. Eriks fair in Stockholm, and at Utrecht.

British trade exhibitions which were held for the first time after World War II included the shoe and leather fair at Olympia; the Smithfield fatstock show, which was organized in conjunction with the agricultural machinery exhibition at Earls Court in December, and the *Sunday Times* national book exhibition at Grosvenor house, London.

The 25th international cycle and motor cycle show was held at Earls Court in October. The world's largest cycle show, it attracted 177 exhibitors and 189,671 visitors. The international motor exhibition at Earls Court, and "Radiolympia" were held at the same time—"Radiolympia" opening on Sept. 27 and the motor show the following day. An exhibition of underground mining machinery—a new trade show—was held in July, and a business efficiency exhibition in November.

The Scottish industries exhibition was opened at Kelvin hall, Glasgow, on Sept. 1, by the Queen. More than 300 Scottish manufacturers exhibited in the largest trade fair ever held in Scotland. The fair was an outstanding success—544,867 people visited it, including 1,100 overseas buyers. The second international trade fair was opened in Toronto on May 30. There were exhibitors from 32 countries: 130 British firms were represented.

It was noticeable at the trade fairs of Frankfurt and Leipzig that Germany was divided. Of 2,634 exhibits at Frankfurt spring fair in April, only 33 were from Berlin and 11 from the Soviet zone. The Leipzig spring fair in March attracted about 6,000 exhibitors; only 300 were from west Berlin, and under 300 from west Germany. Czechoslovak, Polish and Hungarian industrial exhibitions were held at the Gorky central park of culture and rest in Moscow. Unlike 1948, when only consumer goods were displayed, there were also products of heavy industry in the Czechoslovak exhibition of July 1949.

The Zagreb international fair, which opened on Sept. 17, had exhibitors from many west European countries, but in August the Soviet all-union chamber of commerce was instructed by the Soviet government to refuse to participate. The reason stated was "the recent disclosed facts of brutal treatment by Yugoslav authorities of Societ citizens."

The annual show of the Royal Agricultural Society of England was held at Sundorne, Shrewsbury, under the

presidency of Princess Elizabeth. Previous shows at Shrewsbury were in 1845, 1884 and 1914. The showground, which extended to 115 ac., was not big enough for all the livestock entries that were offered. The total number of entries accepted was 4,679. The Great Yorkshire show was held at Wakefield—the first show of the society since 1939. The Royal Lancashire show was at Stanley park, Blackpool, only the third time since 1768 that the county show had been staged in Blackpool. There were 6,983 entries, over 2,000 more than in 1948.

More than 102,000 persons attended the Royal Welsh Agricultural society's show at Swansea, 23,000 more than the previous record at Carmarthen in 1947. At the Bath and West show at Long Ashton, Bristol, there were 525 trade stands offering evidence of the progress of mechanization in agriculture. The 63rd show of the British Dairy Farmers' association, at Olympia in October, attracted 102,097 visitors —the first time more than 100,000 persons had attended.

The Irish society held its first large postwar show in the Horticultural hall, Westminster, in June. Other shows there included those of the Royal Horticultural society and the National Rose society. The Chelsea flower show was again held in May.

A special exhibition was held in London as part of the Colonial month. Described by the King as "a vivid and convincing portrait of the colonies, their peoples and their problems," the exhibition provided an opportunity for people in Britain to acquire up-to-date information about the colonies with the minimum of effort and study. Because of its popularity—528,433 visitors attended—the exhibition remained open for more than three months, and the Colonial Office considered proposals for arranging similar displays in provincial centres. (X.)

FALKLAND ISLANDS. British colony consisting of two main islands and about 200 smaller islands in south Atlantic. Area: 4,618 sq. mi. Pop. (1947 est.): 2,272. Dependencies: large areas in the Antarctic. Governor, Sir Miles Clifford.

History. A new constitution, granted at the end of 1948, came into force on Jan. 1, 1949. It provided for a Legislative Council consisting of the governor as president (with a casting vote only), three *ex-officio*, three official and two nominated and four elected unofficial members; the council held its inaugural meeting on March 4. The Colonial Development corporation announced that under its auspices a sealing venture had been launched. The Falkland Islands Dependencies' survey ship, "John Biscoe," returned to Britain on July 14 after a successful voyage, marred only by the inability to relieve the post at Marguerite bay; it again sailed for the Antarctic on Oct. 11 and reached Deception island on Dec. 2. (*See* also ANTARCTICA; EXPLORATION AND DISCOVERY.)

FINANCE AND TRADE: Currency: pound sterling

	Budget (1949 est.)		Foreign Trade (1948)	
	Revenue	Expenditure	Imports	Exports
Colony . .	£127,555	£151,698	£293,212	£321,384
Dependencies .	£114,330	£103,567	£2,043,335	£3,900,203

(J. A. HU.)

FAROUK I, King of Egypt (b. Cairo, Feb. 11, 1920), the only son of King Fuad I, invested on July 29, 1937. (For his early life see *Britannica Book of the Year 1949*).

During 1949 rivalry between the palace and the Wafd party, led by Nahas Pasha, continued. On April 21, King Farouk received Husni el-Zaim (*see* OBITUARIES), the dictator of Syria. On Oct. 6 he solemnly exhorted the country to ensure the preservation and success of the coalition; but it was not long before party polemics destroyed the coalition cabinet (*see* EGYPT). Addressing the Arab League council on Oct. 30, he pointed out that there was still an empty seat at their table—that of Palestine. On Nov. 19, in connection with the celebrations of the centenary of the death of Mohammed Alim founder of the Egyptian royal house, the army presented to King Farouk a field marshal's baton.

FASHION AND DRESS. Spring of 1949 went down in fashion history as the flying panel period. In the previous autumn Balenciaga had shown a fitted suit with narrow skirt, and a wide separate back panel. This original method of achieving a slim look combined with becoming movement made such an impression that the Paris spring collections were full of developments of this flying panel theme. There were side panels, back and front panels, all-round strip panels like maypole ribbons. Sometimes a three-step hem level was given by panels both longer and shorter than the skirt. Always the skirt itself was skin-tight.

Another fashion detail which grew to such proportions as to affect the silhouette was the pocket. Breast-high pockets, funnel-shaped, had flaps pointed and stiffened like calla lily petals to stand up above shoulder level. In some evening dresses the entire bodice consisted of twin pockets. Pouch pockets and huge flap pockets, placed far to the side, widened the hips.

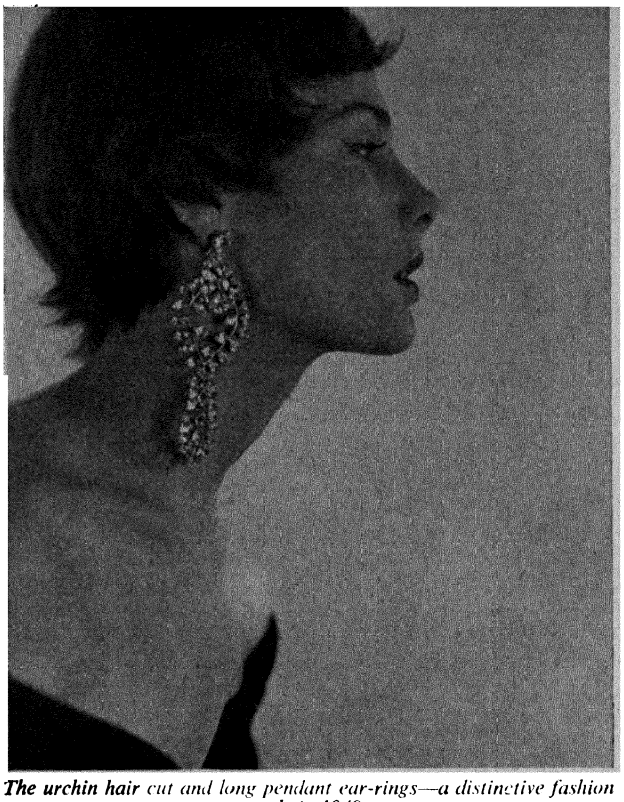
The spring and summer also saw a new low level in daytime necklines. Even simple day dresses had necklines which plunged narrowly almost to the waist. Late-day dresses were apt to have immensely wide deep necklines.

Coats grew collars which rose high at the back, then turned down in a sloping line to become miniature capes. There were some fitted, bell-skirted coats, but the pyramid coat, sloping out from neck to hem, was the prevailing line.

Christian Dior showed the first short-and-long evening dress, spiralling from above the knee to train length. This



1949 fashion trend is shown in this illustration of a sheath evening dress in black wool, slit above knee at back and with grosgrain panels trailing to the ground.



The urchin hair cut and long pendant ear-rings—a distinctive fashion style in 1949.

and the three-step hem levels caused by varied length panels were the forerunners of a whole crop of uneven hems in the autumn collections. Peter Russell christened them "disturbed hemlines": and since the close affinity between fashion and the feeling of the times was now generally conceded, it was hardly surprising that a period of such political and economic uncertainty should be reflected in fashion uncertainties of this kind.

The later the hour, the more skirt lengths wavered. By day the general level had risen again to 14 or 15 in. from the ground, sometimes rising further at a wrap-around point, or slit for walking freedom. Late-day and evening skirt lengths were extremely erratic. The floor-length crinoline skirts, which had had such a long innings, were kept for débutante and ball dresses. A new evening dress line was widely draped at the hips, narrowed to the ankle and then considerably slit. Newest of all for Europe (but already familiar to America) were the strapless evening dresses in rich fabrics with street-length skirts: a few full, but the majority slim sheaths—the 1920's all over again, except that these dresses were invariably belted, in contrast to the unbroken line of that earlier period. Dior's ultra-short sheath, with a huge hip-swathe trailing the floor, was the most dramatic of a whole range of models which achieved short-and-long hemlines by panels, wrap-around swathing or slanting overskirts. Kerchief-pointed skirts, wavering between knee and ballet length, were another aspect of hem-line uncertainty and another reminder of the '20s—also recalled by the ever receding length of hair.

The short hair of late 1948 was still long enough to curl out like a drake's tail at the nape but late 1949 saw actually shingled heads and that variant, the *gamine* hair cut, reputedly begun by mannequins fretting their short hair unevenly with razor blades but soon developed through more orthodox means by the hairdressers.

Of course, this short hair went along with head-clasping hats. Most of these were small skull-caps, "beanies," cloches, berets, miniature toques and helmets. There were however, a few large hats, still with nothing at the back to impede the high collars but with wide side-to-side brims or jutting shovel brims—heralding, perhaps, a forward movement in hats to come.

The last months of 1949 saw the beginning of several important trends. One was again due to Dior: a dropped, markedly extended shoulder line—the first sign of an important shoulder treatment since the removal of square padding left shoulders naturally rounded. These new shoulders were still sloped and unpadded but half-way between shoulder and elbow Dior attached a gathered flounce, often buttoned, sometimes lined with fur, so that it stood out.

Another trend was the moulded body-line, interrupted by sharp-angled shapes in collars, cuffs and stiffened hip draperies. This contrast of soft and sharp was achieved by using soft fabrics and stiffening them with a crisp lining at strategic points.

Another new line, likely to develop, was the bloused back, above a sharply belted waist and tube skirt. Skirts in general narrowed as the year went on.

There was a marked tendency towards asymmetry in clothes of all types. One rever would be longer than the other; a peplum would spring from the hip at one side only; a line of buttons (and buttons were everywhere) would march down one side of a bodice or skirt; necklines were cut to one side; evening dresses had one shoulder strap.

Colours continued dark or neutral. A whole range of "charcoal" colours, as if black had been mixed with them, appeared. There was much beige and grey. Blue, petrol and thunder blue and royal blue, returned, especially with black. Navy blue was chosen for winter and for evening, and other colours particularly favoured were dark greens, many browns and clear geranium reds.

Fabrics showed a new feeling for nobbly bouclé, fleecy woollens. Prodigiously heavy coatings, with reversible plaid and plain were a first favourite. Stiff silks and rayons—taffeta, brocade, moiré, satin—were still universal for afternoon and evenings. There was much velvet, used alone and combined with wool.

Long gloves went out to meet the three-quarter and elbow-length sleeves. In the evening they rose to shoulder level; were smartest in black glacé kid. Leather belts pulled in every waist—on suits, day dresses, evening dresses. Court shoes and naked sandals (with covered toes and heels) divided the honours. Coloured shoes were seen in shades of ivy leaf green, pewter, blonde, bronze and dark red. Yards of pearls circled necks and dropped into deep necklines. Huge chandelier earrings swung to the shoulders—piquant contrast to the ragged *gamine* hair cut.

Nylon lingerie appeared in sufficient quantities to be on display instead of only under the counter. Corsets in deep blue and other unconventional colours were a welcome proof that better supplies were making fashion experiments possible.

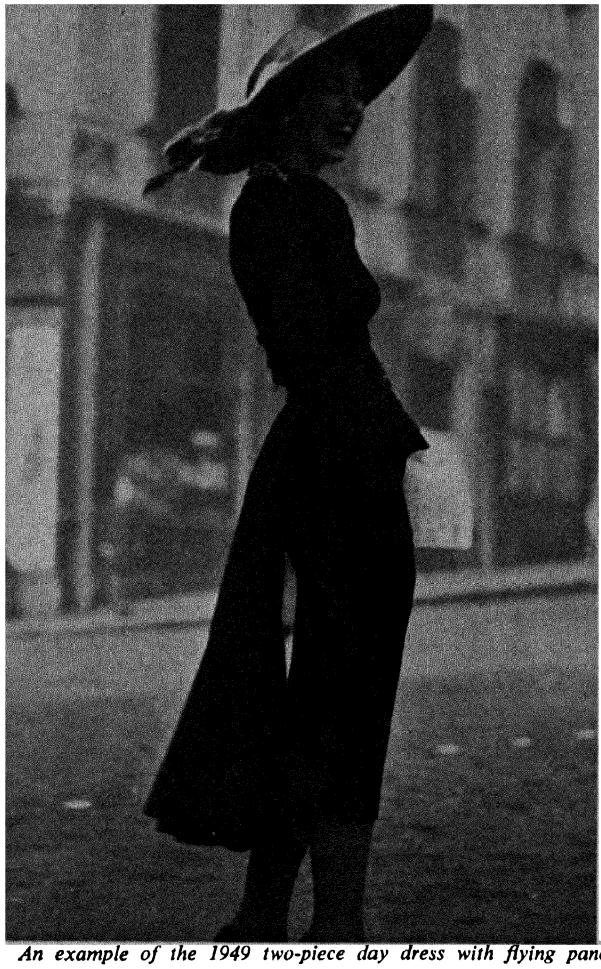
Realistically—to meet their customers' shrinking budgets—a number of couture houses in Paris and London launched or expanded *boutiques*, little shops selling accessories and more moderately priced simple clothes, ready-to-wear, or needing only one fitting. (A. Ws.)

Men's Fashions. In the men's fashion field, 1949 saw the death of the exaggerated drape jacket, which hung loosely from the shoulders with hardly any indentation at the waistline. "Drape" was a style which originated in England at the end of the 19th century and gave an illusion of broader shoulders and deeper chest. After World War II it returned to England from America in such exaggerated forms that the style leaders at last decided that it no longer had a place in men's fashions.

The evolution of men's clothes, however, was a very slow process and each succeeding style had necessarily to be in the nature of a modification of its predecessor. Consequently 1949 saw the introduction of jackets concentrating on softer lines but still retaining a moderate drape over the chest and natural rounded shoulders. A style reminiscent of Edwardian days, it was completely opposed to the padded square shoulder effect of former years. Lower placing of the waistline and pockets gave an illusion of increased length. Trousers were narrower and the effect of the style was to give a neat tapering line with smallness at the bottom.

In men's sports clothes the trend veered away from the separate jacket and flannel trousers. The well dressed man chose a sports ensemble designed expressly for his particular purpose—golf, walking, riding, etc. For general week-end wear the two-piece country suit, correct in the open as well as at the house party, became the accepted garb.

The return to favour of tails after a long absence enforced by austerity conditions and the increasing popularity of the two-piece double-breasted dinner suit were other highlights. Midnight blue was replacing black for these formal clothes; under artificial light it appeared richer and blacker than black itself. (R. J. My.)



An example of the 1949 two-piece day dress with flying panels.

FEDERAL RESERVE SYSTEM. In view of the changing credit situation and the downward readjustment in business, the Federal Reserve system took steps during 1949 to relax measures of monetary and credit restraint adopted earlier to combat inflation.

During the year, Federal Reserve holdings of government securities declined $4,400 million, of which $3,800 million took the form of a reduction in holdings of marketable bonds. The Federal Reserve banks sold long-term restricted issues to savings banks and private pension and trust funds. The liquidity position of commercial banks was increased through their acquisition of short-term government securities with funds released by reductions in reserve requirements.

Reserve requirements for member banks were reduced substantially during 1949. At the beginning of the year, reserve requirements against net demand deposits were 26% for central reserve city member banks, 22% for reserve city member banks and 16% for country member banks, while reserve requirements against time deposits at all member banks were 7½%. At the end of the year, reserve requirements in effect were 22% against net demand deposits for central reserve city member banks, 18% for reserve city member banks and 12% for country member banks, with a reserve requirement of 5% against time deposits at all member banks.

Regulation W, relating to consumer instalment credit, was twice eased by the board of governors in the first part of 1949. From March 7, the standard maximum maturity period on all extensions of consumer instalment credit was made uniformly 21 months instead of 15 to 18 months, and minimum down payments on furniture, appliances, etc., were reduced from 20% to 15%. From April 27, the maximum maturity period on consumer instalment credit was further increased to 24 months and the minimum down-payment requirement on furniture, appliances, etc., was further reduced to 10%. In both revisions the 33⅓% minimum down payment on cars was retained. On June 30, the temporary authority granted by congress, under which the board of governors issued Regulation W, expired.

From March 30, the board of governors amended the supplements to Regulations T and U so as to reduce the margin requirements for purchasing registered securities from 75% to 50%. Other amendments to Regulations T and U, effective from May 16 and July 20 respectively, increased the loan value for securities acquired through the exercise of subscription rights and removed margin requirements applicable to credit for financing the functions of specialists on the New York stock exchange. (J. K. L.)

FENCING. The world championships held at Cairo in April were the outstanding fencing event of 1949. At foil and épée the Italians showed marked superiority over their French rivals, while at sabre, the Hungarians being absent, they swept the board. Christian d'Oriola scored the only French success in the men's foil individual, and Ellen Preiss-Müller of Austria retained the ladies' title she won in 1947 at Lisbon. These championships were memorable for experiments with a system of direct elimination and the annulment of the double hit at épée. Both innovations were generally disliked, and the congress of the Fédération Internationale d'Escrime decided in June to revert to the normal rules, including the pool system.

In other major events, the amateur and professional competition in Paris for the Coupe Mabileau at foil was won by Maître Battesti of France and the Coupe Monal at épée by Edouardo Mangiarotti of Italy. In Britain, the appointment of a national fencing coach and the inauguration of national and junior coaching schemes marked the notable development of the sport since World War II. In Great Britain the ladies' foil championship was won by Miss Gillian Sheen. Champions in the men's events were Rene Paul (foil), Peter Dix (épée) and R. F. Tredgold (sabre). St. Paul's won the public schools' championship. (C. L. de B.)

United States. The number of entries in the 1949 national championships was the largest in the history of fencing in the United States. In the team events, the Fencers club of New York won the foil team championship for the first time since 1936 with the Salle Santelli of New York second. The Salle Santelli retained its three team titles, sabre, épée and three-weapon.

For the first time a foreign visitor won the national fencing championship when Umberto Martino (Italy) defeated George Worth of the Salle Santelli 10-8 in the sabre championship. In the Pacific coast championships, Alfred Snyder of the Olympic club of San Francisco won the men's foil; Bruce McBirney of the Faulkner School of Fencing of Los Angeles won the épée. (W. A. Dw.)

FERTILIZERS. The consumption of fertilizers in the United Kingdom increased in 1948-49 to a new record level. The amount of phosphate used was about 12% above that in 1947-48; there were only small changes in the amounts of nitrogen and potassium.

CONSUMPTION OF FERTILIZERS IN GREAT BRITAIN

	Thousand tons plant food			Calcium oxide in liming materials
	Nitrogen	Phosphoric acid	Potash	
1938-39	60	170	75	1,300
1947-48	186	372	190	2,260
1948-49	185	416	196	2,650

It was not certain that progress in the use of fertilizers would be maintained during the early 1950s. Since Oct. 1940 fertilizer prices had been stabilized by means of subsidies and, as the costs of labour, agricultural raw materials and farm products rose, fertilizers became steadily more profitable. It was now proposed to withdraw this subsidy in two approximately equal stages during the fertilizer years 1950-51 and 1951-52, the increased cost being taken into account at the annual price review of agricultural products. The price increases were likely to be particularly high for materials obtained from countries with hard currencies, and if as a result farmers on the poorer and therefore more responsive soils were led to cut down their outlay on fertilizers the agricultural expansion programme might be jeopardized

The world reserves of raw materials for fertilizers were reviewed in several papers presented to the United Nations Scientific Conference on the Conservation and Utilization of Resources held at Lake Success, New York, in the summer of 1949. At anything like current rates of consumption problems of reserves of phosphate and potassium would not arise for a thousand years or more. The known reserves of phosphate rock were estimated at 26,000 million tons, there were also huge additional quantities in deposits for which little technical data were available. Reserves of the high-grade phosphate rock were, however, limited and might need to be husbanded. The reserves of potash in lake brines and soluble minerals amounted to 5,000 million tons K_2O but they were very unequally distributed. In addition there were vast potential sources in the ocean and rock but potassium from these sources had not hitherto been used beyond the experimental scale. The reserves of nitrogen in coal amounted to 8,700 million tons and in nitrate of soda to 1,000 million tons. The world supply of nitrogen fertilizers depended mainly on the synthesis of ammonia from atmospheric nitrogen which already consumed the equivalent in power of 20 million tons of coal annually. Should the world supplies of sulphur become exhausted the phosphate fertilizer industry would require about the same quantity of power to produce alternative fertilizers to superphosphate.

The efficient use of fertilizers depends on a sound judgment of the special needs of individual soils and crops. The various chemical and biological methods of diagnosing nutrient deficiencies and estimating fertilizer requirements were well reviewed in *Diagnostic Techniques for Soils and Crops*. The problem of phosphorus utilization by crops under a range of agricultural conditions was studied by field experiments on various fertilizers and organic manures containing radiophosphorus (P^{32}). When the technique has been critically studied and developed it should become possible in this way to determine what proportion of the phosphorus comes from the added fertilizer and what from the soil. (X.)

World. In the year ended June 30, 1949, world consumption of commercial fertilizers and fertilizer materials (exclusive of U.S.S.R.) included 3,292,000 tons of nitrogen, 4,966,000 tons of phosphoric acid and 3,220,000 tons of potash, increases respectively of 44%, 42% and 37% above the prewar average. During the year Europe continued as a net exporter continent to the extent of 166,000 tons of the combined nutrients; South America remained a net exporter of 205,000 tons, while North America changed to a net exporter of 279,000 tons. Africa was a net importer of 165,000 tons, Asia of 445,000 tons and Oceania of 11,000 tons. North America shipped large quantities of fertilizer from Canada and the United States to occupied areas in Germany, Japan and Korea. Large shipments also went to China

Total world production (including U S S.R) of phosphate rock in 1948-49 reached 18,082,000 metric tons of material averaging about 32% P_2O_5; about one-half came from the United States, one-third from North Africa, one-eighth from U.S.S.R. and one-twentieth from the Pacific islands.

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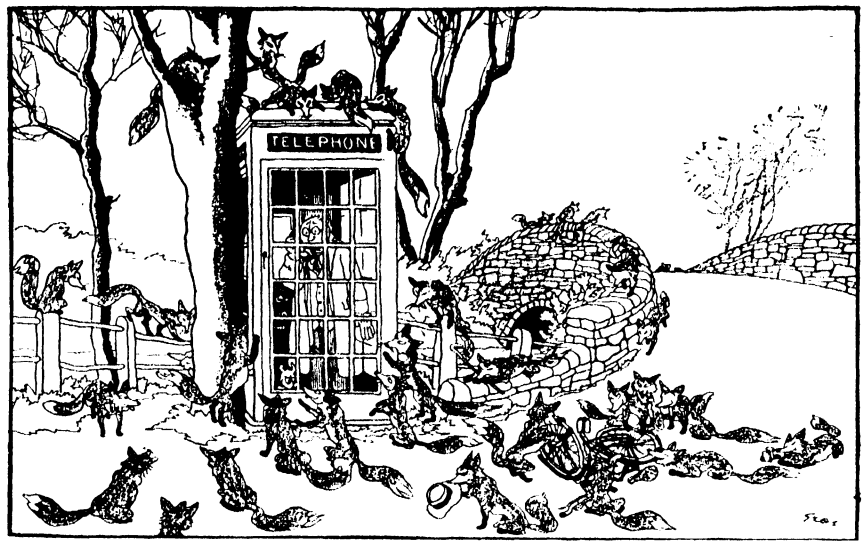
FIELD SPORTS. The most important event of the year was the defeat in the House of Commons of the Protection of Animals (Hunting and Coursing Prohibition) bill, which was introduced by a private member and rejected by 214 votes to 101 A further private member's bill to prohibit foxhunting was then withdrawn The government subsequently set up a committee to consider the question of cruelty to wild British mammals

The hunting season was remarkable for the unusually dry weather and many packs suffered from lack of scent Few hunts enjoyed consistently good sport, yet many had occasional brilliant days. There was little foot and mouth disease but, especially in the home counties, a certain number of hounds suffered from foot infection. The sport enjoyed by beagles and harriers was comparable to that of the foxhounds. The dry weather developed into the severe drought which lasted through the summer of 1949. Rivers fell below their normal levels and this affected otterhunting But the condition of this sport was improving every year The banks of rivers which were damaged during World War II were returning to normal—as in the Crowhurst country - and packs, such as the Pembrokeshire and Carmarthenshire, which were resuscitated after the war, went from strength to strength. Cub-hunting began in the middle of August and a generally successful season was enjoyed. The dry weather had been followed by widespread and heavy rain by the time of the opening meets.

The recovery in grouse stocks noted in 1948 was maintained and, except in a few localities, the "Twelfth" began a very successful season. In Yorkshire particularly there were a number of good bags with many three-figure days. The good results may be attributed largely to the open winter of 1948-49 and to suitable conditions at nesting time, which resulted in early broods of strong birds. No reports of grouse



"Hallo, this is the secretary of the Anti-Blood Sports society speaking"—a comment by Giles in the "Daily Express" (London) in Feb. 1949, when a bill to prevent blood sports was before parliament.

disease were noted and heather was generally in excellent condition. There was some indication that high costs and the difficulties of obtaining staff reduced the number of lettings of moors, especially of those with lodges. Wild pheasants again showed their ability to thrive in an average season with little artificial aid; and there was a fairly general improvement in partridge stocks. As with grouse, low-ground game benefited by an open winter and a fine spring and summer.

Anglers would long remember 1949 for the drought which brought the water too low and made it too hot for salmon to run after May, except in a few rivers mainly in Scotland; but there was a magnificent run of spring fish which went up the rivers very early, often before the season opened so that on many of the lower beats which usually fish well early in the season, the fishing was poor while the up-stream beats (usually deserted) returned good catches. Rivers showed great contrasts, some reporting the best season they had had for years while others got practically no fish at all. The netting season on the coast was everywhere first class. Trout rose poorly in general, but there was almost the finest mayfly season within living memory. (L. V. D.)

FIGL, LEOPOLD, Austrian statesman (b. Rust, Lower Austria, Oct. 2, 1902), chairman of the Austrian People's party (Österreichische Volkspartei) and from Dec. 19, 1945, chancellor (prime minister) of Austria. (For his early career see *Britannica Book of the Year 1949*).

On the eve of the elections of Oct. 9, 1949, he demanded that the evacuation of Austria be placed on the agenda of high policy discussions, irrespective of whether a peace treaty would be coming into existence or not. After the elections it took him four weeks of strenuous bargaining to reform his coalition cabinet composed of representatives of People's and Social Democratic parties.

FIJI: *see* PACIFIC ISLANDS, BRITISH.

FINLAND. A republic of northeastern Europe. Area: 130,165 sq. mi., including inland waters (20,190 sq. mi.) but excluding 17,596 sq. mi. annexed by the U.S.S.R. in 1944. Pop.: (Dec. 31, 1940, census) 3,887,217; (mid-1948 est.) 3,958,000. The density of population varies from 20 per sq. mi. in the south to 0·8 per sq. mi. in the north. Languages: (1940 census): Finnish 3,327,534 (87·5%), Swedish 353,985 (9·3%), Russian 7,210, Lappish 2,345. Religions: Lutheran with a small admixture of Greek Orthodox, Raskolniks (a Russian sect), Roman Catholics, Jews, etc. Chief towns (Dec. 31, 1946, est.): Helsinki or Helsingfors (cap., 371,662); Turku or Åbo (96,470); Tampere or Tammerfors (89,071). President of the republic, Juho Kusti Paasikivi; prime minister, Karl August Fagerholm (*q.v.*); minister of foreign affairs, Carl Enckell.

History. For the Finnish population as a whole, 1949 was a good year. After a decade of hardship and privation, food and clothing and consumer goods in general at last became available in abundance. All foodstuffs were off the ration except coffee and sugar, and the supply of those was adequate. The housing shortage was still a severe inconvenience but new buildings were being put up at an increasing rate and there was some relaxation in the restriction to one-room-per-person.

While consumers were having a good year, the producers concerned in the export trade were meeting serious difficulties. The recession in world trade involved a fall in the prices offered for timber and timber products, including paper, which make up over 90% of Finland's total exports. Stocks began to pile up in the paper and cardboard mills, and at the end of March 50,000 men were unemployed. The most obvious way of reducing costs—a cut in wages—was barred while Finland was under a Social Democratic government. The only way of increasing exports that the government could see was to devalue the currency and to find a way of buying American machinery quickly for the mechanization of the forest industry.

On July 5 the Finnish mark was devalued (from 547 to 643·8 to the £) and on Aug. 1 the International Bank for Reconstruction granted Finland a loan of $12 million. Of this loan, $10 million were to be spent on machinery for the forest industry and $2 million for equipment for hydro-electric stations.

The Finnish Communist party raised an outcry against both these measures. The loan was decried as "binding Finland to Washington capitalism" and the devaluation was condemned as bound to lead to an increase in the cost of imports and hence in the cost of living. The Communists still had enough influence in the trade unions to induce a number of them to demand a rise in wages and, when this was refused, to launch a wave of strikes. The strikes began among the timber sorters in Kemi and spread down the Ostrobothnian coast until 15 harbours were closed by Aug. 19 and the export trade was paralysed. But the Federation of Trade Unions took the view that there was no case for a general increase in wages because the cost of living index had not risen and by an agreement of Oct. 1947 wages had been pegged to that index-figure; the federation therefore refused to countenance the strikes and expelled the seven unions whose members were taking part in them. The strikes then collapsed, and the seven unions begged for re-admission to the federation, which was granted only to those which accepted stringent conditions of membership. The August strike wave and its outcome did much to discredit the Communists throughout the country and added to the prestige of the government, which had handled the crisis with laudable firmness and discretion.



A crowd of more than 3,000 in the Hakaniemi square, Helsinki, listening to Communist speakers at a rally held during the wave of strikes in Aug. 1949.

The government came through the year with success but not without difficulty. The Social Democrats had only 54 of the 200 seats in parliament and, although they could usually count on the support of the Conservatives, the Swedish party and the Liberals, they had to face the opposition of the 38 members of the S.K.D.L. (the Finnish People's Democratic League, which was the name by which the Communists and their fellow-travellers chose to be known) and also on many occasions of the Agrarian party which held 56 seats. Under the leadership of Dr. Urho Kekkonen, the Agrarians in parliament grew increasingly restive during the year and on one occasion when they made an unnatural alliance with the S.K.D.L. the government was able to survive what amounted to a vote of no-confidence by only the narrowest margin of votes.

Towards the end of the year thoughts of the coming presidential election tended to swamp other political considerations. Under the Finnish constitution the election was due to be held in mid-Jan. 1950. The government wanted to pass a constitutional law to prolong the mandate of the present president, Dr. Paasikivi, for a further two years, and there is no doubt that most of the citizens were in favour of this; but such a law would have needed the agreement of a five-sixths majority and the S.K.D.L. refused its assent; and the Agrarians, whose leader had ambitions for the presidency, were glad to see it dropped.

The economic situation looked happier as the year went on. The harvest turned out to be fairly good: the hay crop was above the average, the yield of wheat, rye, oats and barley was medium and only the potato crop was poor. When Great Britain devalued its currency in September, Finland was obliged to take the same course, raising the exchange rate of the U.S. dollar from 160 to 231 Finnish marks. This was followed in November by a loan of $2·3 million from the International Bank, to enable Finland to buy dollar equipment with which to expand timber exports to Great Britain, Denmark and Belgium.

Throughout the year Finland's foreign relations were harmonious. The U.S.S.R. waived its claim to 441,000 gold dollars due as a fine for late delivery of certain articles included in the war indemnity. When the sixth year of indemnity payments began on July 1, Finland's debt was, generally speaking, confined to deliveries of electrical equipment, machinery and ships. To the relief of everyone in Finland, the Soviet Union made no untoward difficulties about the indemnity programme. (J. H. Jn.)

Education. (1947) Schools: elementary 6,036, pupils 463,400; secondary 299, pupils 81,160; training colleges 8, students 1,341; high schools for adults 71, pupils 4,400; technical schools 444, pupils 35,480. Universities (1948) 3, and institutions of higher education (1948) 4, students 13,500, professors and lecturers 936. Illiteracy (1930) 0·9%.

Agriculture. Main crops ('000 metric tons, 1948): wheat 265; barley 214; oats 640; rye 199; potatoes 1,950; root vegetables 837; cultivated hay 2,425; hemp and flax (1946) 2·7. Livestock ('000 head, March 1948): cattle 1,452; sheep 999; pigs 304; horses (March 1949) 395; chickens 1,918. Production ('000 metric tons, 1948): milk 1,750; butter 30; cheese 7; meat (including offal) 110. Fisheries: total catch (1947) 46,000 metric tons.

Industry. (1946) Industrial concerns 5,691; persons employed 236,723. Fuel and power: electricity (million kwh, 1948; 1949, six months in brackets) 2,780 (1,707). Raw materials (in metric tons, 1947): pig iron 70,182; ferro alloys 455; steel ingots 71,459; steel castings 5,216; copper (mine production, 1948) 23,322; cobalt 50; nickel 82; selenium 617; gold (fine troy ounces) 10,642; silver (fine troy ounces) 188,821. Forest products (1948): sawn goods ('000 standards) 815; cellulose ('000 metric tons) 1,080; mechanical pulp ('000 metric tons) 138; newsprint ('000 metric tons) 328; other paper ('000 metric tons) 233; board and cardboards ('000 metric tons) 139; plywood ('000 cu. m.) 210.

Foreign Trade. Imports: (1948) Fmk. 66, 440 million, (1949, six months) Fmk. 27,630 million; exports: (1948) Fmk. 68,050 million (excluding 11,550 million reparations to the U.S.S.R.), (1949, six months) Fmk. 28,540 million mks. (excluding 5,870 million reparations).

Transport and Communications. Roads (1946) 37,242 mi. Licensed motor vehicles (June 1949): cars 19,900; commercial vehicles 33,237. Railways (1948): 3,084 mi.; passenger-journeys 44 million; goods traffic 15 million tons. Shipping (July 1948): merchant vessels 297, total tonnage 457,437. Wireless licences (1948): 680,000. Telephones (1947): 264,231.

Finance and Banking. Budget (million Fmk.): (1948) revenue 72,494, expenditure 72,445; (1949 est.) revenue 98,531, expenditure 98,506. National debt (Dec. 1948; in brackets Dec. 1947): Fmk. 121,617 (118,100) million. Currency circulation (July 1949; in brackets July 1948): Fmk. 28,252 (27,371) million. Gold reserve (Aug. 1949): 6 million U.S. dollars. Bank deposits (Sept. 1949; in brackets Sept. 1948): Fmk. 23,100 (21,800) million. Monetary unit: *markka* with an exchange rate of Fmk. 643 to the pound.

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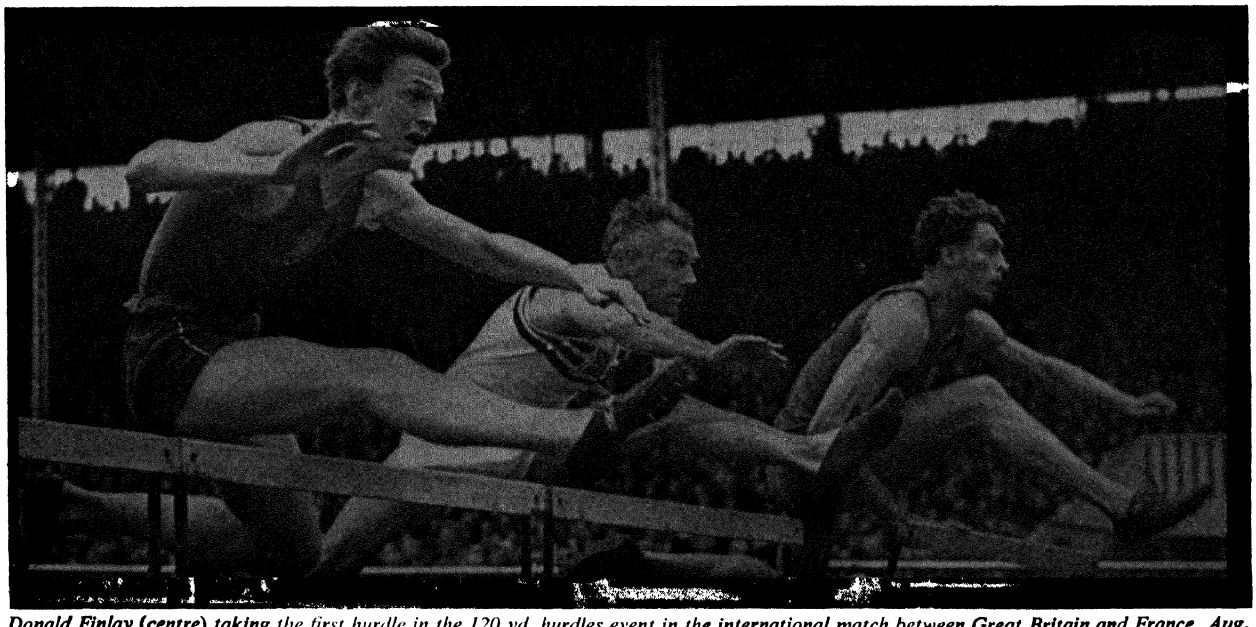
FINLAY, DONALD, British air force officer and athlete (b. May 27, 1909), joined the Royal Air Force as an aero-engine fitter in 1925 and was commissioned ten years later. During World War II he served in the R.A.F. fighter command and was awarded the Distinguished Flying cross. He also holds the Air Force cross. He first represented Great Britain in the 110 m. hurdles in the Olympic Games in Los Angeles in 1932. He reached the final, as he did again in Berlin in 1936. The games in London in 1948 again saw him in the British team: as the oldest British competitor, he was given the honour of pronouncing the Olympic oath on behalf of the entrants from 59 nations. He fell when leading in his heat: but for this misfortune he might have reached his third Olympic final. In 1937 during a tour of Scandinavia by a team of British athletes he recorded a time of 14·1 sec. for the 110 m. hurdles. In 1949, at the age of 40, he surpassed his previous efforts when in an international match between Britain and France at White City, London, on Aug. 1, he broke his own 12-year-old British national 120 yd. hurdles record by $\frac{1}{10}$ sec., with a time of 14·4 sec. A week later at Ibrox park, Glasgow, he returned 14·5 sec., one-fifth of a second faster than his own Scottish all-comers' record. He was A.A.A. champion for the 120 yd. hurdles for seven consecutive years, 1932-38, and for the eighth time 11 years later in 1949. In July he announced that he would not race again in the A.A.A. championships. (*See* ATHLETICS.)

FISHERIES. Great Britain. An increased interest in fisheries was part of the world-wide search for further food resources for populations in danger of outgrowing the capacity of over-taxed land. In European waters only two sources of fish supply could be contemplated with equanimity, the cod fisheries and the herring fisheries. Both these were subject to local fluctuations but so far they showed no signs of exhaustion. In the fisheries for the various kinds of flat fish and hake, there was a marked decline, which might have been arrested had the conventions of 1938 to 1946 been strictly observed. The statistics of Great Britain showed a marked decline in the landings from the North sea and other home or nearby waters and a steady increase of landings from distant waters, Bear island, Barentz sea, coast of Norway, Iceland and Greenland. The output of the herring fisheries was on the whole steady. The popularity of the herring endured and seemed likely to endure, but there were clear signs that cod was rapidly losing public favour. The increased demand for fish resulted from shortage of other foods. The popularity of fish, in Great Britain at least, always rested mainly on the " prime fish ": turbots, brill, soles, etc., which the North sea and other home waters produced so abundantly but within a restricted area. The decline of the " prime " fish and of hake (which had also come to achieve popularity) seemed to bring the fish supply into disrepute and the market for cod and most of the gadoid fishes was dull in spite of the general scarcity of other foods. Nevertheless, new building proceeded. Eighteen large trawlers were added to the British distant water fleet in 1948 and a further 40 were added in 1949. There should, therefore, have been no lack of fish, if the fish were there. In the near or middle waters fleet an increase of 14 new vessels was expected.

A Sea Fish Industry bill before parliament in 1949 provided for state loans towards new building and reconstruction in the near and middle waters fleet and would have enabled orders to be made and enforced to prohibit the sale of undersized fish as was proposed in the convention of 1946, besides conferring statutory powers to limit the British North sea fleet to 85% of the fishing power available in 1938, a difficult step to take in the absence of reciprocity in other countries. The same bill would enable various regulations to be enforced for the more efficient handling of fish supplies, including the licensing of boats, of wholesale fish businesses and processing establishments as a means of enforcing such regulations.

British Colonies. First place in 1949 may justifiably be given to a valuable and most interesting British report *The Production of Fish in the Colonial Empire* by C. F. Hickling, fisheries adviser to the secretary of state for the colonies



Donald Finlay* (centre) *taking the first hurdle in the 120 yd. hurdles event in the international match between Great Britain and France, Aug. 1949. Finlay won the event in 14·4 sec., setting up a new English native record.

(H.M.S.O., London, Dec. 1948). In general, accurate figures of colonial fish production were available in none of the colonies except Malaya, the only colony which had, before 1939, a staff exclusively devoted to the care and improvement of the local fishing industries. Malaya had always produced large quantities of fish, and in 1939 had an exportable surplus of over 11,000 tons of salt fish. By 1949 the prewar level of production in Malaya had already been achieved and its long-established and most efficient fisheries department was increasing its staff of trained fishery officers with a view to the expansion of the industry. An important part of the scheme of expansion was the establishment, or re-establishment, of a school for fishermen with power craft, which would carry out experimental fishing and tuition simultaneously; Malaya might be said to have stood by itself among the colonies in the matter of technical service.

Fisheries play a considerable part in the economy of many, if not most, of the British colonies and there were many indications that with training in improved methods of fishing and the handling of fish products most of the colonial fisheries could be widely developed. But for this purpose trained technical staffs were needed and there was a serious lack of specialist staff of all types. It was therefore necessary to begin at the beginning. The rapid training of staff began with a preliminary course, which was constantly varied in the light of experience gained, and endeavoured to fit into nine months a grounding in the technique of fishing, preservation and distribution, net making and scientific research. The emphasis of the course was on the word preliminary. At its conclusion officers under training were sent on a term of duty which would be followed by further instruction following practical experience. The underlying purpose was to increase fish production within the limits of rational fishing.

The primary aim of all development of colonial fisheries was the satisfaction of local needs. But frequently there was or could be a surplus for export and it was intended that advantage should be taken of this possibility where it existed. For example a survey, begun in Jan. 1948, of the Mauritius and Seychelles area, with the dependent islands, where the output of fish was proving abundant, aimed especially at a trade in frozen fillets with south and east Africa. Samples, however, were sent to Great Britain and elsewhere. A large private venture, which looked to the survey for guidance, was designed to satisfy the fish requirements of Mauritius, ship the surplus to Madagascar and return the ships to Mauritius with cargoes of meat.

Nigeria was always a considerable fish consumer and a regular importer of dried fish from Norway, as well as from the upper waters of the Niger in French West Africa. The colony possessed a small fisheries department which was investigating the creeks and lagoons of the delta. Results suggested that these waters were already fished to the limit by native methods; but the department was preparing to investigate the possibilities of the adjacent sea-fisheries, which had not been exploited by the local fishermen.

Great possibilities for development in Sierra Leone were revealed by experiments with a 70 ft. Brixham trawler fitted with a diesel engine. This vessel was to be replaced by a modern diesel trawler which, it was anticipated, would become the nucleus of a considerable fleet to catch fish for local needs and for distribution elsewhere. The prospects of the Gambia were also good. Meanwhile fishery research was being organized on a regional basis through a West African Fisheries Research institute established in Sierra Leone.

In east Africa lake and river fisheries greatly predominate. Uganda has great fishing resources in lakes and rivers, effectively exploited by native fishermen, but it was thought that production from these sources could be multiplied. In Kenya trout fisheries had for some time past been developed with striking success and experiments in stocking some of the smaller lakes had been successful. In addition an extensive survey of the sea fisheries was to be carried out off Kenya, Tanganyika and Zanzibar, where it seemed probable that there were considerable untapped resources. Tanganyika also had fisheries on Lakes Victoria, Tanganyika and Ruhwa; and a Lake Victoria Fishery board was established under the British East Africa high commissioner's office to survey the fisheries of that lake and experiment in the use of more efficient methods of fishing. Research was provided for by a fisheries research station at Jinja in Uganda. A qualified biologist surveyed the fisheries of Lake Nyasa and recommended an increase in the supply from the lake, whilst avoiding over-fishing. His report was being considered by the Nyasaland government.

In Northern Rhodesia, the chief fish resource of which is Lake Bangweulu, a fisheries officer was appointed; he began work there and in the Luapala river, where there were good prospects of development and where a fisheries research station was being planned. Taking east Africa as a whole, the inland water fisheries were much more important than the sea fisheries and there was a keen demand for fish. The development of fisheries in the Gulf of Aden was handicapped by lack of harbours, poor communications and the general backwardness of the country; but a survey of the fisheries begun in Jan. 1948 suggested considerable possibilities for development especially in the export of canned products.

In the far east, apart from Malaya and fishing carried out in Fiji, Sarawak and British North Borneo, Hongkong amongst British colonies possessed a flourishing fishery which was hampered by economic chaos in China, its principal market, and plans for a fisheries research station at Hongkong were approved. The West Indian waters were poor in fish because the sea in those regions mostly lacks the nutrient salts upon which a healthy fish population depends.

The productivity of the British colonial fisheries, sea and inland, was much greater than was generally realized and there were great possibilities of important additions from this source to the available supplies of protein food, as Hickling's *Survey* made clear.

India. The government of India embarked upon a five-year plan for the development of Indian fisheries along the lines of modern methods employed in Europe and Japan. As a contribution to this plan they imported machinery for a fish-freezing plant from the United States, negotiated with Japan for the purchase of deep-sea fishing vessels and considered the purchase of trawlers from Scotland and Holland.

Their preliminary target was 10,000 tons of fish daily. With this in view they were carrying out an exhaustive survey of their coastline of some 3,200 mi. and establishing "pilot" fishing stations based upon seven ports. Each of these stations was to be equipped with cold storage for 4,000 tons of fish. They also proposed establishing a fisheries research station in the port of Bombay where all research on the subject was to be co-ordinated.

Their plan further included the protection and cultivation of fresh-water fishes, which would begin with the establishment of stocks in some 340 villages in the province of Delhi and could be extended in time to all inland waters.

International Co-operation. There was marked progress, largely through the encouragement of the U.N. Food and Agriculture Organization, in the development of international co-operation in the scientific, technical and economic study of fisheries for the rational exploitation and utilization of their products. It was in this field that F.A.O. seemed most likely to achieve success, and it owed not a little to the

excellent example set during some 47 years by the International Council for the Exploration of the Sea. The question of reviving the International Commission for the Scientific Study of the Mediterranean Sea was fully discussed at a meeting held under the auspices of F.A.O. in Rome from Sept. 19-24. The meeting was attended by delegates from France, Greece, Italy, the Lebanon, Turkey, the United Kingdom and Yugoslavia. With the exception of the French delegate, all those present supported the proposal to set up a Mediterranean Fisheries council to organize studies of marine biology and the technical and economic problems of fisheries. The F.A.O., however, although it recognized the importance of marine biology as the foundation of rational exploitation, was most directly concerned with the availability of fish for food. Agreement was eventually reached to set up a General Fisheries Council for the Mediterranean with functions covering all fishing problems in very wide terms and with instructions to co-operate closely with other international bodies in matters of mutual interest. F.A.O. undertook to provide the secretariat of the council if the report were accepted. These proposals were to come up for discussion at the fifth session of the conference of F.A.O.

A more ambitious project was embodied in the Convention for the Conservation of the Northwest Atlantic Ocean, signed at Washington, D C , on Feb. 8, 1949, " in order to make possible the maintenance of a maximum sustained catch from those fisheries." The terms of the convention were signed on behalf of the governments of Canada, Denmark, France, Iceland, Italy, Newfoundland, Norway, Portugal, Spain, the United Kingdom and the United States.

The area covered by the convention was wide and elaborately defined, extending as far east as the west coast of Greenland, and was to be divided into five sub-areas, for which an equivalent number of " panels " were to be appointed, like the commission, by the contracting governments. Each panel was to be free to adopt rules of procedure and by-laws for the exercise of its functions. The machinery and procedure of the convention were elaborate. The over-all duty of the commission, working through the panels, was to organize scientific investigation, " for obtaining and collecting the information necessary for maintaining those stocks of fish which support international fisheries in the convention area." Measures contemplated were open and closed seasons, closed areas, size limits for any species of fish, regulation of fishing gear and a prescribed over-all limit of the catch of any species of fish. The convention would become operative when ratified by four contracting governments. It was to come into force with regard to other governments as they ratified and non-contracting governments might adhere.

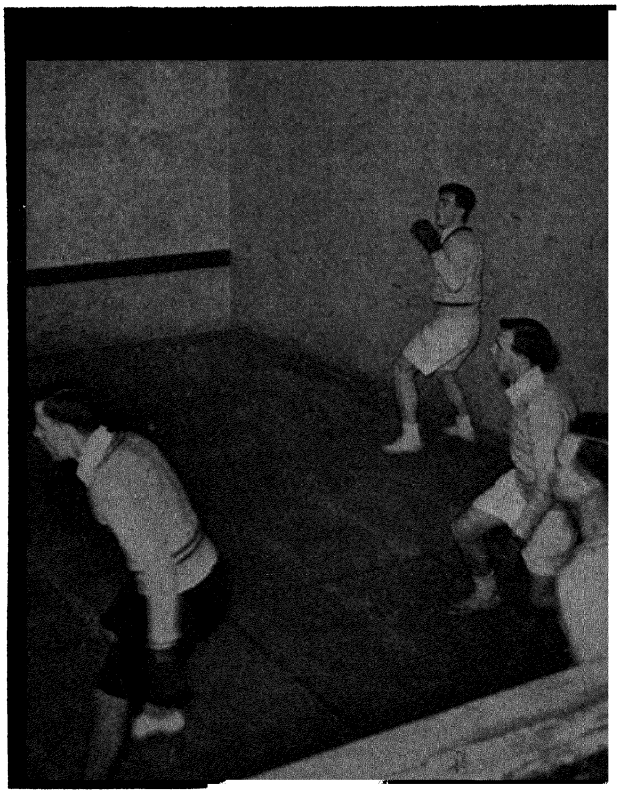
Meanwhile the International Council for the Exploration of the Sea, whose activities covered the fisheries of the northeastern Atlantic, carried on its good work. It was represented at the Northwest Atlantic conference by two of its vice presidents as observers. The annual meeting of the International council was held at Edinburgh. According to practice two special scientific meetings were held at which lectures were delivered on selected subjects, on this occasion fishing gears and their effects, and shell-fish. Those affecting shell-fish fisheries were largely based on British experience and dealt with many problems, especially the control of the menaces of pollution and exotic pests, and the elucidation of failures of spat-fall. The English fisheries department embarked on a vigorous expansion of its programme of research. Meanwhile there was a marked drift of the English oyster fisheries from east to west, from the Thames estuary to the Fal and Helford rivers in particular. This was largely due to the comparative cleanness of the western waters and absence of such imported pests as the slipper limpet. Also there was greater freedom here from severe frost. The aim of the department's activities in the field was to arrest the rapid decline of production which had marked the oyster fisheries in recent years and to promote large scale development.

International Differences. It was unfortunately easier to secure international co-operation in scientific and technical research into fishery matters than to achieve co-operation in applying the results of research. The whole question of international rules governing sea fishing was complicated by a number of considerations which, through their very nature, were difficult to bring into harmony. Broadly speaking, the conflict was between the maintenance of national interests and the acceptance of international community of interests. Every country with a coast-line had of necessity to exercise some dominion over the waters adjoining its coasts. Great Britain had long claimed jurisdiction up to three miles seaward and firmly refused to accept any other claim for more extended jurisdiction. In general this line was followed by actively maritime nations. The question of territorial waters was closely connected with fisheries because fishing operations were in the main limited to waters adjacent to the coast and, with rare exceptions, fishermen regarded themselves as entitled to go where the fish were, though most were prepared to respect the three-mile limit. This limit was the one most widely and influentially supported; but claims of jurisdiction up to various longer distances were advanced by individual countries. Such claims were an obstacle to fishing conventions because of the difficulty of agreement over areas involved. They obviously would not apply to waters within the exclusive jurisdiction of a particular country, though, as was pertinently remarked, fishes are no respecters of territorial limits. Hitherto, conflicting claims in respect of territorial waters had not led to open conflict between nations. As regards fisheries the Norwegian claim to territorial jurisdiction up to four miles was a matter for argument with Great Britain for many years as the cod fisheries off Norway are very prolific, and many attempts were made to reach agreement by negotiation. The last attempt to agree ended in failure; there were several untoward incidents at sea; British vessels were interfered with and, in the last resort, this long-standing dispute was referred to the International Court at The Hague.

The extravagant territorial claims in the sea advanced after World War II by various powers in the American continent did not cause any international incidents; but a good deal of uneasiness was caused by what seemed to be an attempt by a Scandinavian bloc to oust British fishing vessels from the rich fishing waters west of Greenland by denying them the use of port facilities. Iceland made or threatened to make extensive claims of jurisdiction. But competition for fish became an obstacle to agreement about regulations for the benefit of all parties. There were of course other contributing factors, from local prejudice to naval competition—for a prosperous fishing industry is a valuable contribution to naval power. Hence, though conventions were agreed, they were not fully ratified. The Washington convention of 1946, intended to extend and strengthen the preceding conventions, beginning with that signed in London in 1938, was not yet fully ratified and the Northwestern Atlantic convention signed in 1949 seemed unlikely to become operative for some time.

The difficulty attending conventional agreements of this character was sharply revealed on consideration of the subject of naval defence. In proportion as a strong fishing fleet contributed to the naval strength of a maritime country it was difficult for that country to enforce limiting regulations tending to weaken its defence. There were naturally many other difficulties. No nation liked to restrict the profitable activities of its nationals. It remained to persuade them all

that control would in the long run provide greater and more enduring prosperity. (*See* also MARINE BIOLOGY; ZOOLOGY.)
(H. G. M.)



The Rugby fives amateur doubles champions B. M. W. Trapnell (right background) and E. S. Isaacs (right foreground) playing in the Jesters club's 21st birthday match at Windsor.

FIVES. *Rugby Fives.* For the first time in Rugby fives championships the winner of the singles title, B. M. W. Trapnell, was also a winner of the doubles. Trapnell beat E. Ll Bailey in the singles final, and playing with E. S. Isaacs, beat P. A. Deane and A. C. W. Abrahams in the doubles. Oundle (J. R. Nicol and S. M. Pickard) was again successful in the schools doubles competition, and A. D. R. Dawes (Bedford) won the singles for the second time. Oxford won the university match.

During the year the Rugby Fives association appointed a sub-committee to consider the rules of the game. On its advice minor amendments to the rules were made and some rules for match play added. The association gave a dinner in April to Dr. E. F. Cyriax, its president, to mark the occasion of his 75th birthday. The Jesters club celebrated its 21st birthday on Dec. 31 with matches against the Rugby and Eton Fives associations at Windsor. (G. R. RR.)

Eton Fives. Still without the war-damaged Queen's club court, the Eton Fives association was much handicapped. A. G. Wreford-Brown and T. R. Garnett beat A. H. Fabian and M. W. G. Pryke in the final of the amateur championship (Kinnaird cup) and Charterhouse (M. J. Perkins and J. W. H. May) won the schools' handicap competition. Oxford defeated Cambridge by two matches to one in the university match. (H. L. B.)

FLAX: *see* LINEN AND FLAX.

FLOODS AND FLOOD CONTROL. Great Britain. The summer of 1949 and the previous winter were both dry seasons and serious and prolonged floods were few; but local authorities and catchment boards carried out flood control work planned as a result of the serious floods of 1947 and 1948. Many railway bridges in Scotland and northern England damaged in Aug. 1948 were repaired and lines fully re-opened to traffic. The River Trent Catchment board considered a scheme, estimated to cost £2,323,700, for major protection works in the Trent valley, which included the widening of certain river stretches and the construction of river barriers at Gainsborough, Lincolnshire. The River Wye Catchment board approved proposals for the second stage of the Monmouth flood relief scheme; and flood relief sewers were constructed in Hampstead, London, and in Salford, Lancashire.

In October the first instalment, costing about £750,000, of the Rimrose brook main drainage scheme was put into operation. Its object was to provide drainage facilities for undeveloped lands in the catchment area, where considerable housing development was proposed by the Bootle corporation and the Litherland Urban District council, and also to prevent serious flooding which had taken place periodically in Bootle, Litherland and Seaforth, Lancashire.

Coast Erosion and Protection. The Coast Protection act received the royal assent in 1949 and provided for the establishment of both national and local responsibility for coast protection in Great Britain by setting up local coast authorities of two different types to deal with the problems of their areas. It gave wider powers to county district councils or borough councils on the coast, enabling them to carry out works to protect their lands and coastlines. Under these, the minister of health (for areas in England and Wales) or the secretary of state for Scotland could, where many interests were involved, set up coast protection boards, ensuring that the danger of lack of co-ordination evident in the past would be overcome. The bill also provided for financial assistance to the authorities concerned.

Many authorities carried out work in repairing and extending sea defence works. At Seaford, Sussex, the strengthening of the sea wall was continued and new groynes were built. The construction of a sea defence wall at Rhyl, Flintshire, began in November, with the object of checking a flood-high water mark which had advanced more than 1,500 ft. between 1871 and 1949. Prestatyn, adjacent to Rhyl, approved a scheme costing £235,000. At Lowestoft, Suffolk, work on sea defence estimated to cost £130,000 in the next five years was approved. The Essex Rivers Catchment board proceeded with plans to improve existing sea walls at an estimated cost of over £500,000, including work to be undertaken in consequence of abnormal tides during March.

Australia. The bill authorizing the Snowy River scheme consisting of a vast hydro-electric and irrigation project, including measures for retaining the flood waters for irrigation purposes and estimated to cost £200 million, passed all stages in the House of Representatives in June. The work was officially begun on Oct. 17 by the first blasting at one of the dam sites. In June, following heavy rain, the Hunter river burst its banks and caused an area of 200 sq. mi. around Maitland and Kempsey, New South Wales, to be submerged. Some streets in Sydney were also flooded to depths of 5 ft. In order to minimize the dangers of floods in the future the New South Wales government adopted a flood control for the Hunter valley to cost over £10 million. The scheme comprised the construction of three reservoirs to be operated solely for flood control, while five other reservoirs were to be primarily used for irrigation.

Austria. A week of continuous rain in August caused the biggest summer floods for several years in many alpine rivers. The Danube rose 18 ft. in 36 hr. near Vienna.

Guatemala. In October, following several days of torrential rains, disastrous floods occurred causing the death of 4,000 people, and rendering 70,000 persons homeless. The value

of damage was over £17 million including the loss of nearly half of the country's coffee crop.

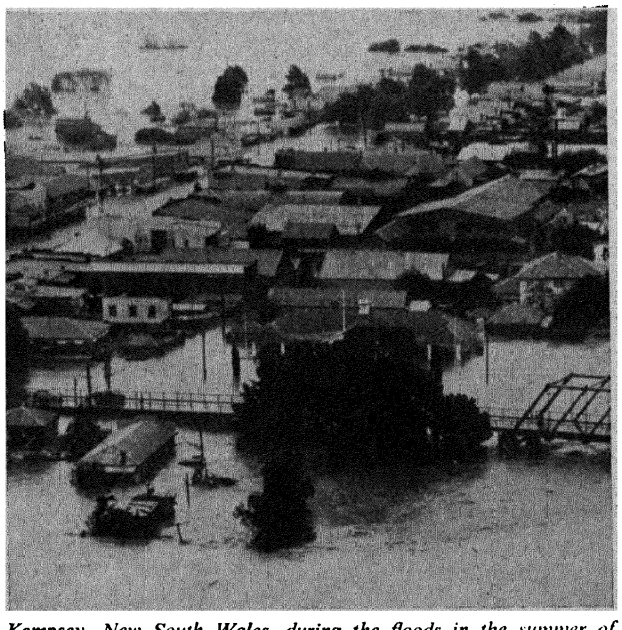
India. Among the irrigation and flood control projects under construction was Bhavani dam in Madras consisting of an earth structure below the junction of the Moyar and Bhavani rivers, where much excavation was done during World War II.

Italy. Floods occurred in the provinces of Benevento, Avellino and Salerno at the beginning of October as a result of torrential storms. An area of 1,000 sq. mi. was devastated and more than 30 people lost their lives. In November the river Reno broke its banks and flooded more than 30,000 ac. of farmland near Bologna.

Pakistan. The Lloyd barrage, on the river Indus and forming part of the world's greatest irrigation scheme, was the subject of grave concern when investigation showed serious cracks in the ashlar masonry of the piers, and remedial work was undertaken.

Uganda. Construction of the Owen Falls dam on the river Nile was commenced in the autumn of 1949. The scheme was for hydro-electricity in addition to irrigation and flood control and would enable abnormally high flood waters to be conserved as "century storage" or continuous storage over several years in conjunction with existing dams on the lower course of the river where water is stored during floods, to be used during the same year. (J. KD.)

United States. The U.S. flood control act approved Oct. 13, 1949, provided $437,430,400 for flood control work during the fiscal year ending June 30, 1950. The funds were classified as follows: general flood control, $366,330,400; emergency fund, $2 million; lower Mississippi river, $67 million; Sacramento river, $3,600,000; Mississippi river emergency fund, $500,000. Of the flood control general fund, $518,381,090 was specified for new construction; $3,210,000 for advance planning; and $5 million for preliminary examinations, surveys and contingencies. Exclusive of the lower Mississippi river and the Sacramento river, flood control construction was continued or begun on 165 projects in 37 states and in Alaska. The $67 million allotted the lower Mississippi river project was designated for work in seven states: Kentucky, Illinois, Tennessee, Louisiana, Missouri, Arkansas and Mississippi.



Kempsey, New South Wales, during the floods in the summer of 1949 when the Hunter river burst its banks.

At the end of June 1949, a total of 256 flood control projects was in operation; 30 were new. Construction was continued on 98 projects, of which 43 were reservoirs and 55 were of a local character, such as levees, flood walls, channel improvements, etc. Construction was begun on 34 new projects, 9 of which were dams and reservoirs.

Reservoirs placed in operation during the fiscal year included the Union Village reservoir, Vermont; the Tully reservoir, Massachusetts; the Addicks reservoir, Texas; the Hords Creek reservoir, Texas; and the Wister reservoir in Oklahoma. Local protection projects placed in operation included projects at Nashua, New Hampshire; Holyoke, Massachusetts; Springdale, Massachusetts; the Conway county levee districts numbers 1, 2 and 8, Arkansas; the McLean Bottom levee district number 3, Arkansas; the Henderson county drainage district number 3, Illinois; projects at Tucker Lake, Arkansas; Cincinnati, Ohio; Aten, Nebraska; Hot Springs, South Dakota; the project at the mouth of the Sangamon river, Illinois; the projects for the Owasco inlet and outlet, New York; Lancaster, New York; Pajaro river, California; the Mill Four drainage district, Oregon; and projects at Indianola, Nebraska; Elkins, West Virginia; Tacoma, Washington; and Taylorsville, Kentucky.

Congress in the first deficiency appropriation act of 1949, enacted on May 24, provided funds of $14 million for general flood control projects. In the second deficiency appropriation act of 1949, approved on June 23, 1949, $500,000 was made available for prosecution of the work on the Fort Worth floodway on the Trinity river in Texas. On Oct. 10, 1949, the president signed another appropriation, which provided, among other things, $76,000 for the modification of the project at Mandan, North Dakota.

Channel improvement of the Mississippi river proper was continued during 1949 at a number of places below Cairo, Illinois. Completed levee construction totalled approximately 1,500 mi. of main stem levees, extending from near Head of Passes, Louisiana, to Rock Island, Illinois. Co-ordinated with the main stem levees were 1,000 mi. of tributary levees, practically completed in 1949. Below Cairo, work continued on river bank protection. Revetment was carried out on more than 100 mi. of river bank; in addition, many miles of permeable dykes were in place for bank stabilization and channel regulation. The substantially completed 2,500-mi. levee system now contained more than 1,200 million cu.yd. of earth; it was called the largest earth-moving project in history.

Damaging floods occurred in New England in the Connecticut river valley during the closing days of Dec. 1948, causing damages running as high as $7 million and claiming the lives of five persons. Disastrous as the floods were, however, the flood control works that had been completed and were in operation prevented damages estimated at $11 million.

Damaging floods also occurred along the Potomac river in Virginia and West Virginia during June 1949. Rain fell with such intensity that communications were disrupted before warnings could be sent. Eleven lives were lost and the total damage in Virginia was estimated at more than $3 million and in West Virginia at $6 million.

In Jan. 1949, minor flooding occurred on the Grand (Neosho) river from Oswego, Kansas, to Pensacola reservoir and on the Verdigris river from Inola, Oklahoma, to the mouth. Major flooding occurred on the Poteau river from Cauthron, Arkansas, to Wister reservoir, with minor flooding from Poteau, Oklahoma, to the mouth. Major flooding occurred on the Kiamichi river and on the Little river and its tributaries, while moderate floods were experienced on the Red river at Fulton, Arkansas.

During the early months of 1949, a great amount of snow covered the Missouri river basin, causing some flooding of

major streams and their tributaries. However, if the plains states had experienced flood-producing weather in the spring, record flooding might easily have occurred. Fortunately, rapid thawing and heavy rainfall did not occur to make the threat a reality. (G. HB.)

FLOUR. In 1949 there was a tendency in most countries for the flour extraction rate to be lowered and hence for the public to have a whiter and generally more appetizing flour. Although in Great Britain the extraction rate remained at 85% Table I indicates the general world trend and also gives information on the quantities of bread grains used per person in the principal countries.

TABLE I.—WHEAT FLOUR IN THE WORLD

	Extraction rate %		Supplies per capita (in kg.)
	1947-48	1948-49	1947-48
Eastern Hemisphere			
Australia	70	70	98·3
Belgium	83	78	97·9
Bulgaria	(a)	80	127 8
Czechoslovakia	(a)	80	126·4
Denmark	80	80	70 0
Egypt	—	—	177 8
Finland	80	80	118 6
France	95	80	93·7
Germany (Bizone)	95	88	116·8
Greece	88	88	109·7
Italy	85	80	113 3
Netherlands	85	80	93·1
New Zealand	78	(a)	102·9
Norway	87	87	107·9
Portugal	90	(a)	71·5
South Africa	(a)	80	170·0
Spain	90	(a)	94 0
Sweden	80	(a)	76·8
Switzerland	88	78	108·5
Turkey	—	—	155·3
Western Hemisphere			
Argentina	72	72	118·7
Brazil	80	(a)	83·6
Canada	73	73	86 4
Chile	75	(a)	132·2
United States	72	72	84·2
Uruguay	72	(a)	92·5

(a) Unreported, but for 1948-49 blanks would probably be as for 1947-48 and for 1947-48 blanks would not likely be less than for 1948-49.

Actual consumption figures of flour or bread per person were not available but were substantially controlled by the prevailing extraction rate.

In Great Britain in the first six months of 1949, the flour sold was 1,579,300 tons for manufacture (corresponding to 2,143,300 tons bread) together with 253,700 tons of flour sold for household requirements. The miller's grist naturally varied throughout the year but always contained an appreciable proportion of strong Manitoba wheat together with nearly as much home-grown wheat, the whole being supplemented with some Argentine and Australian wheat.

The principal exporting countries were the United States, Canada, Argentina and Australia and besides the usual channels there were heavy clearances of the surpluses to Germany, Italy and India. In April 1949 an international meeting agreed export quotas. Allowing for the amount of home-grown wheat, the 1949-50 season for international trade in wheat and flour was likely to take place within the framework indicated in Table II.

TABLE II.—WORLD WHEAT SURPLUSES
(In quarters of 480 lb., '000 omitted)

	Total Surplus	Probable Shipments	Excess of Supply
United States	90,250	50,000	40,250
Canada	43,920	30,000	13,920
Argentina	17,625	11,500	6,125
Australia	19,500	12,000	7,500
U.S.S.R.	5,000	5,000	—
	176,295	108,500	67,795

Feeding tests made on German girls produced rather surprising results. Groups of girls had their rather inadequate diet supplemented with bread made from various types of flour such as short extraction (72%) white flour, 85% flour and wholemeal, but all the breads were equally efficacious in bringing about satisfactory growth and health. (D. W. K-J.)

United States. For the first eight months of 1949, wheat flour production amounted to 155,500,000 cwt., compared with 185,300,000 cwt. for the corresponding period of 1948. The peak production month for this period was January, with 22,380,000 cwt. compared with 24,400,000 and 28,190,000 cwt., respectively for the corresponding months of 1948 and 1947.

Net exports of wheat flour for 1948 amounted to 55,300,000 cwt., a decrease of 29,740,000 cwt. or 35% from 1947. The flour available for domestic consumption during 1948 was 201,700,000 cwt., an increase of only 4 million over 1947. This increase was a consequence of sharply reduced exports, which dropped 53·8% from 1947, rather than a result of flour production. (*See* WHEAT.)

Investigation and tests conducted by the flour industry during 1949 revealed that no effect, toxic or otherwise, was obtained by the use of oxidizing agents, bleaches and related materials which were commonly used to improve the baking properties of flour.

The flour and cereal enrichment programme, widely accepted in Great Britain and continental U.S., was introduced in the Philippines, Cuba and Puerto Rico. In the latter country the enrichment of all white flour was made a legal requirement. (*See* also BREAD AND BAKERY PRODUCTS; WHEAT.) (H. BD.)

FLOWERS AND FLOWER FARMING: *see* HORTICULTURE.

FOOD RESEARCH. A clear illustration of the experimental production of hypertension and its relation to nutrition was given in 1949 by Drs. W. S. Hartroft and C. H. Best of Toronto. These investigators placed weanling albino rats on a diet low in choline, a member of the vitamin B complex, for periods of five or six days. Such brief periods of choline deficiency were sufficient to produce the typical "hæmorrhagic kidney" in the young growing albino rat. Blood pressure determinations were made at intervals, and at the end of the experiment, histologic studies were made of both kidneys. The amount of kidney damage observed was classified as severe, moderate, slight or none. Ten of the survivors of the hæmorrhagic kidney syndrome exhibited severe persistent kidney damage. All of these animals had definite arterial hypertension, the average blood pressure being 195 mm. of mercury. Thirteen of the survivors showed moderate residual kidney damage, with a mean blood pressure of 165 mm. Thirty-nine of the survivors showed only slight kidney damage and exhibited a mean blood pressure of 136 mm. For the 36 control animals, the mean blood pressure was 118 mm. In a study of agents which influence experimental radiation injury, A. Goldfeder, L. Cohen, C. Miller and M. Singer investigated the effects of dietary supplements of folic acid and of pyridoxine on the susceptibility of mice to radiation injury. These two vitamins were selected for investigation because the former was reported to be of clinical value in preventing nausea in X-ray-treated cases, whereas the latter had been of value in sprue and in the treatment of leucopenia, which suggested its application in relief of the diarrhœa and leucopenia accompanying radiation sickness. The experimental studies with mice indicated that deficiencies of these two B-complex vitamins markedly increased susceptibility to irradiation injury.

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Deficiency in Early Life," *Brit. Med. J*, 1:423-426, London, March 12, 1949. J. B. Field and P. E Rekers, "Studies of the Effects of Flavonoids on Roentgen Irradiation Disease: II. Comparisons of the Protective Influence of Some Flavonoids and Vitamin C in Dogs," *J Clin. Invest*, 28. 746-751, July, 1949. (F. J. SE.)

Vitamin B_{12}. Among the important accomplishments in nutrition research is the isolation of vitamin B_{12}, the recognition of its relation to pernicious anæmia and the discovery of new uses for it. Dr. Randolph West, along with many others, embarked upon an attempt to concentrate the active principle from liver. After more than 20 years of search, in April 1948 the concentration of a reddish crystalline substance from liver was finally reported by an English worker named E. L. Smith. In the same month a group of American research workers headed by Dr. E. L. Rickes of the Merck Research laboratory also reported the isolation of a reddish crystalline compound which they called vitamin B_{12}. Both were found to be effective in the treatment of pernicious anæmia. Simultaneously, Dr. West published observations demonstrating that exceedingly small doses of this newly isolated vitamin B_{12} were effective in the treatment of anæmia. Dr. Mary Shorb also reported that the material isolated by the Merck workers was an essential growth factor for *Lactobacillus Lactis Dorner*. Earlier she had shown that an "LLD factor" in refined liver extract bore a significant relationship to the effectiveness of extracts used in the treatment of pernicious anæmia. The early clinical investigations of Dr. West with vitamin B_{12} were confirmed by others and its usefulness in the treatment of other forms of macrocytic anæmia was demonstrated in 1949.

Vitamin B_{12} is a red crystalline compound. Its precise chemical structure was as yet unknown, but it was described as an organic cobalt-complex containing small amounts of nitrogen and phosphorus. It was presumed to have a molecular weight of about 1,500. Of interest was the fact that cobalt had been regarded, for some time, as an essential trace element in human nutrition. However, prior to the discovery of vitamin B_{12} it was not demonstrated to be a constituent of any known nutrient. Vitamin B_{12} was effective in the treatment of anæmia in exceedingly small doses. Jones, Darby and Totter currently reported that as little as 1·5 micrograms (0·0000015 grams) given parenterally could be effective. In view of the difficulty of obtaining vitamin B_{12} from liver, it was fortunate that there were other sources including the *Streptomyces griseus*, from which streptomycin could be obtained.

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FOOD SUPPLY OF THE WORLD. The world food situation became increasingly easier during 1949 and in a few sectors burdensome surpluses were emerging. In great contrast with the uneasy, if not actually dangerous, food situation of the world in the early part of 1948, the almost universally good harvests of that year were followed by increased food supplies in 1949 in all major regions except the United States and Canada. Prospects for meeting the effective demand for food in the 1949-50 consumption year were brighter than in any of the preceding postwar years, although a large proportion of the world's population nevertheless would not be and had not been adequately nourished by some standards. Food rationing and other restrictions were widely relaxed or abandoned. The improved situation was not so much the result of extremely large crops in one or two areas (as had previously been true as regards the U S.) nor of the enormous output of one major crop, but rather a general improvement in the output of many categories, but particularly of bread grains, feed grains, fats and oils, and fruit and vegetables. Reserves of grain stocks in the four principal exporting countries on July 1, 1949, were 72·8 million tons, about 68% larger than the small stocks of the previous year. Livestock in Europe showed much improvement after the large harvests of 1948 and the increased abundance of coarse grains for import. Essentially 1949 was a year without famine; crops were not very poor in any large area; malnutrition was endemic but not epidemic.

In some exporting countries, particularly the U.S., there was some concern about the possibility of agricultural surpluses. Substantial reduction in planted acreage of wheat and corn crops to be harvested in 1950 were ordered in the U S. Government storage programmes were expanded and exports subsidized.

TABLE I WORLD FOOD PRODUCTION BY COMMODITIES AND BY AREAS COMPARED WITH PREWAR

	(% of prewar)			
Food commodity	1946-47	1947-48	1948-49	1949-50*
Bread grains	94	96	102	101
Rice	92	93	97	99
Coarse grains	104	97	110	104
Fats and oils	85	88	94	100
Sugar	90	92	108	106
Meat	94	93	94	97
Dairy products	88	87	90	95
Potatoes	84	83	105	96
Area				
Far East	90	92	95	96
Europe (excluding the U.S.S.R.)	76	79	89	93
U S and Canada	135	128	138	135
Latin America	114	114	118	120
Australia and New Zealand	96	109	106	107
Africa and near east	—	101	116	118
World average (excluding the U S S R)	95	97	104	105

* Preliminary estimate

Bread Grains, Wheat and Rye. World bread grain production estimates for 1949 were lowered during the year as additional information became available; near the end of the year they were estimated at 233 million short tons, slightly less than the 238 million tons of 1948 but a little above the average 229 million tons of 1935-39. The world wheat crop was finally placed at 6,185 million bu., a figure somewhat below the 6,385 million bu. of 1948 and moderately in excess of the 6,010 million bu. average for 1935-39. The decrease was primarily the result of decline in North American production, the U.S. producing 1,176,463,000 bu. in 1949, compared with 1,313,534,000 bu. in 1948. The Canadian crop was about 25 million bu. smaller than the 1948 harvest but approximately 50 million bu. in excess of the prewar average. The U.S. crop was the sixth consecutive crop of more than 1,000 million bu. but almost 250 million bu. below the record, although about 400 million bu. more than the prewar average.

The world rye crop of 1949 totalled 1,655 million bu., as against 1,665 million bu. in 1948 and 1,730 million bu. prewar average (1935-39). The increase was largely in Europe, which produced 705 million bu. in 1949, compared with 660 million bu. in 1948, but 765 million bu. average prewar. North America produced only about half as much as in 1948.

The abundant bread grain crops of 1949 were particularly important in assuring the continuation, if not the improvement, of the diet of western Europe and in providing stocks for export from the chief exporting countries to the densely populated deficit areas of Europe and Asia. But as reserve stocks became more abundant fears of an unmanageable surplus began to grow in exporting countries. Although

winter wheat sowings in the U.S. were, by official order, only 85% of the record acreage seeded in the autumn of 1948, the condition of the new crop was excellent and initial indications were that the prospective harvest might be nearly as large as in 1949. Rye acreage was expanded 12% and the condition was excellent. Reports on the new crop in Europe were favourable.

Other Grains. A major difference in the world food supply in 1949, in contrast to the immediate postwar years, was the relative abundance of grains for cattle feeding, a situation largely accounted for by the record corn (maize) crop of the U.S. in 1948, from which there was a record reserve after the large 1949 crop. The 1949 crop of 3,377,790,000 bu. plus a reserve of 815,376,000 bu. gave a new record total supply. The corn (maize) crop for the world amounted to about 5,680 million bu., second only to the record crop of 5,990 million bu. in 1948-49 and much in excess of the prewar average of 4,750 million bu.

Other feed grains, oats, barley and grain sorghums, yielded abundantly in 1949, although not up to the 1948 level. The world oat crop was estimated at 3,980 million bu., as compared with 4,200 million bu. in 1948. Europe's 1,375 million bu. was slightly more than in 1948, but nearly one-fifth less than the prewar average. The world barley crop was estimated at 2,250 million bu., compared with 2,380 million bu. in 1948 and about 100 million bu. less than the prewar average.

The significance of these cereals which are not widely use for bread lies partly in their service as reserve stocks against human starvation but more especially in their indirect use as concentrated livestock food in the continuing expansion of meat and livestock production. Whereas in 1947-48 imports of feed grains into western Europe were very modest because of short supplies in exporting countries, exports from the U.S., mostly to western Europe, during 1948-49 of feed grains were large and expected to be still larger in 1949-50.

Rice. The world's greatest food crop for direct human consumption, in terms of the number of people preferring that crop, is rice. In terms of total world production, it had not regained its prewar level; the estimated crop was 144·2 million metric tons (paddy) in 1948-49, compared with 142·5 million tons in the previous year and approximately 147 million tons in the prewar period. Nearly 95% of production was in Asia. The U.S. crop of 89,141,000 bu. was a record one and acreage was to be reduced in 1950. The distribution of production of rice in relation to consumption was very different from the prewar period and world trade in rice was only about 40% as large. In particular, the major exporting areas of southeast Asia, partly because of somewhat smaller production but mainly because of political disturbances, transportation difficulties and increased consumption by the producers, did not provide the usual export quantities for the densely populated deficit rice-consuming areas of the far east. To some extent this gap was filled by wheat and other grains from Australia and the Americas; the U.S. exported 64·2 million bu. of wheat to Japan and Korea in 1948-49 The suggested allocation of rice under the International Emergency Food council in 1949 amounted to only 3,813,000 metric tons. Nevertheless, the situation was more favourable: Japan harvested an estimated 599,105,000 bu. crop, compared with 586,004,000 bu. in 1948; production and export from the surplus areas of southeast Asia seemed to be rising and prices appeared to have stabilized.

Potatoes. The 1949-50 crop was about 8,000 million bu., compared with 8,764 million bu. in 1948-49 and 8,300 million bu. average in the prewar years 1935-39. The European crop (excluding the U.S.S.R.), in particular, declined sharply to 4,414,363,000 bu., compared with 5,054,390,000 bu. in 1948, and was about 10% below prewar. The U.S.S.R. crop was indicated at 2,800 million bu., a little below 1948 but slightly above prewar. The Canadian crop, as well as that of the U S., was smaller, although still abundant in relation to demand. Acreage was increased in Europe, but yields per acre declined to 180 bu., compared with 210 bu. in 1948 and 200 bu. prewar. In spite of lower acreage and smaller crops in the U.S., the 1949 crop nevertheless was excessive and the government subsidy programme involved $50 million to $60 million. Although this was much reduced from the 1948 crop, the official goal, for the 1950 crop was set still lower at 335 million bu.

Sugar. World production of beet and cane-sugar for the 1949-50 season was estimated at 36,646,000 short tons, raw value, 2% less than the record crop of 1948-49 of 37,249,000 tons, but about 6% more than the prewar (1935-39) average of 34,718,000 short tons. World beet sugar production, largely in Europe, increased to 11,362,000 tons, compared with 11,071,000 tons in 1948, but continued below the 12,025,000 tons of prewar. Meanwhile, world cane sugar production of 25,284,000 short tons was about 900,000 tons less than the record large crop of the previous year. Increases in the Philippines, the U S S.R., the U.S., Argentina and several European countries failed to offset the decrease in Cuba and some other areas; Cuba declined to 5 3 million tons from a record of 6,675,000 tons in 1947 Consumption continued to vary very much in the different countries, ranging from 93 3 lb. *per capita* in the U.S in 1949 to only a very few lb. per person for more than one-half the world's population.

Meat. The meat supply situation was generally easier in 1949. Pork, poultry, and fish were in more abundant supply and prices were lower, whereas high quality beef and lamb were relatively scarce and prices continued high. Total meat consumption per person in the U.S. was expected to be about 150 lb., compared with 147 lb. in 1948, a record of 155 lb. in 1947 and a prewar average of 126 lb. Lamb consumption, however, was only 90% of 1948, whereas 10% more chickens and turkeys were consumed than in 1948.

Due to improved feed conditions in 1948 and continuing favourable production in 1949, output of meat increased in 1949 in all major producing areas, although in Europe it was only about 75% of prewar; in spite of large increases in some areas, the world total was still below prewar. Milch cows, however, were given special consideration and world cattle numbers, for beef as well as milk, were placed at a record of 761 million head at the beginning of 1949. Meat exports from Argentina, Canada, Australia and New Zealand continued in fair volume to western Europe, particularly to the United Kingdom.

Fats and Oils. Expansion in the production of most kinds of fats and oils continued in 1949, with a consequent easing of the supply situation and the price level. Although significant differences existed among areas and types, the overall supply approximated to the prewar level. On a population basis the supply continued below prewar, Germany and Japan being especially low at a consumption level of about half that of prewar. Production of fats and oils in the U.S. set up a new record of about 12,010 million lb. as a result of the large 1949 crops of soybeans and cotton as well as a large pig crop. Palm oil and coconut oil also became available in larger amounts from tropical areas. The olive oil crop of the Mediterranean basin was abundant. As a result, world exports of this composite food item were expected to be as much as 10% larger than in 1948. Exports from the U.S. were especially large, reaching a record of 2,100 million lb. in 1948-49.

Food Prices and Trade. The decline in food prices continued in 1949. Food prices, particularly those of food raw materials such as grains and fats and oils, which reached their postwar peaks in the free markets of the world early in 1948, subsequently declined sharply but irregularly. Prices of meat and livestock products resisted the decline to a certain extent. The over-all decline amounted to 10%-20% with a few items showing extreme declines of one-third to one-half of their former peak levels. As a result, although declines on the retail level were much less abrupt and were smaller, black markets in food practically disappeared, rationing and other restrictions were removed in most countries and a buyer's market began to appear.

Because of their cheapness, easy storage, availability and widespread acceptance, grains continued to be the main food import and export in world trade. In 1948-49, world exports of grain and grain products reached 36 2 million metric tons, compared with 35·6 million tons in 1947-48, and the largest since 1931-32, but still less than the record 40·6 million tons moved in 1928-29. Of the 1948-49 total, 26 6 million tons were bread grains, and 9·6 million tons were feed grains. In 1948-49 (mostly from 1948 crops), grain supplies still in hand at the end of the period in the four principal exporting countries increased 68% as compared with 1947-48. For the first time since before World War II, exportable supplies were in excess of the provisional import programmes. In fact, there were signs of trouble ahead in the efforts of most countries to restore or exceed prewar production and to reduce imports, particularly from hard currency areas.

Estimated exports in 1949 included sugar to about 10 million short tons, of which more than 80% came from the western hemisphere, compared with less than 50% before the war. World supply and demand continued to balance. Prices were sluggish and slightly down compared with 1947.

TABLE II.—SUPPLIES OF MAJOR FOODSTUFFS ENTERING WORLD TRADE
(In millions of metric tons)

Commodity	*Prewar*	1946-47	1947-48	1948-49	1949-50*
Cereals (excluding rice)	29·4	28·7	35·0	36·2	35·0
Rice (milled)	7 8	2·7	3 8	4·3	4 5
Fats and oilseeds (fat content)	5·9	3 2	4·0	4·8	5 2
Sugar (raw basis)	11·5	8·0	9·0	10·7	10·0
Meat	1 9	1 9	2·0	1·9	2·0

* Preliminary estimate

Food Situation by Areas. European food production in 1949 was not quite so large as in 1948. In Europe the 1949 cereal harvests averaged some 5% below the previous year, the western and southern portions in particular dropping below the previous year. Potatoes were lower, but sugar increased, as did fats and oils and livestock and dairy products. However, the domestic food supply of Europe in 1949 was still somewhat lower than the prewar level, and population had increased. The major food item, bread grains, was about 92% of the prewar average. Domestic supplies of meat, dairy products and poultry were still low compared with prewar. Nevertheless, the situation had relaxed sufficiently to allow the derationing of bread, lowering of the flour extraction rate and reduction or discontinuing of the mixing of coarse grains in bread flour. Stock-piles of grains were increased. A disturbing feature was the extent to which the world import requirements of food, particularly into Europe, had come to depend so overwhelmingly on the vast but unstable production of North America. The occupied area of Western Germany was reported to have a volume of food production in 1949 some 29% larger than in 1948.

The food situation in the U.S.S.R. appeared to be more favourable than at any time since the war, whether judged by exports, observers' reports or rationing, but there were reports of delays in harvesting due to excessive rains and delays in compulsory deliveries.

The 1949 grain crops of India and Japan were slightly better than in 1948. The situation in China was less clear because of the civil war. Natural conditions for the rice crop, the major cereal item of the diet, were at least as favourable as in 1948. Civil disturbances in Burma continued to restrict the movement of the 1948 rice crop and the production of the 1949 crop. Supplies available for export from French Indo-China continued to be small, although some increase occurred in the Siamese crop. Japan made further progress in agricultural rehabilitation, and in the rice collections.

Food crops in the southern hemisphere harvested during 1948-49 were more than average, particularly in Australia and Argentina; reports of a serious drought in South Africa indicated probably less favourable results there. Exportable supplies of dairy products had increased in Australia and New Zealand, and there were also moderate increases in meat supplies from some countries in the southern hemisphere, Inadequate incentives, in terms of prices paid, apparently continued to be a drag on production in some areas, especially in Argentina, and late in 1949 the government announced higher grain prices.

The food situation, both as to production and consumption, was excellent in North America in 1949, partly because of the nearly record crops but also because of an increase in livestock and their products. Crops in the U S. yielded 148% of prewar (as compared with 154% in 1948), and livestock production was 133% of prewar. Canadian crops also were less than in 1948; and Canada began to search for wider markets for its exportable foods, even in the U.S., in the face of a drop in its contracts with the United Kingdom.

World Food Organization. The United Nations Food and Agriculture organization (F.A.O.) continued to occupy the centre of the international agricultural stage during 1949. Its fifth annual conference of the 62 member countries was held in Washington, D.C., during Nov. and Dec. 1949. During the year, Norris E. Dodd of the U.S. continued as director general Lord Boyd-Orr, (*q.v.*), the former director general, was the 1949 recipient of the Nobel Prize for Peace. A decision was taken to move the permanent headquarters to Rome, Italy. Two other major matters were considered. As regards technical assistance on agricultural matters to those nations requesting such help, the importance of providing technical advisors and extension services was emphasized, and priority on proposed projects was to be given to measures likely to secure an early increase in production of food and other requirements of local populations. The other matter was the consideration of the report on world commodity problems proposing an International Commodity Clearing house, which would purchase surplus supplies of food in exporting countries and dispose of them among under-supplied countries having inconvertible currency difficulties. Instead, a Committee on Commodity Problems was set up with recommendations to act on an individual commodity basis.

Among other international food activities during 1949 was the ratification of the International Wheat agreement which might be the forerunner of other commodity agreements. (J. K. R.)

FOOTBALL. Rugby Union. For the second year in succession Ireland in 1949 carried off the international honours, though their display in the opening match against France in no way suggested that they would. But after that initial defeat by a French side at the top of their form, the Irishmen pulled themselves together and beat all their "home" opponents. The strength of the champions lay in their splendid team work, the continued brilliance of J. W. Kyle (Queen's university), the outside half, and the discovery of a new fullback in G. W. Norton (Bective

Rangers). Of the 41 points that Ireland scored in the championship matches, Norton's place-kicking provided 26. He was an experienced footballer, though this was his first appearance in International games.

Next in the championship table came England, France and Scotland, with two wins out of four games, and Wales figured at the bottom. Anything more topsy turvy than these final placings could not be recalled for a long time: Wales opened the internationals with a magnificent win over England at Cardiff, and the whole side played really sparkling football. From then on they went from bad to worse, their poorest game being that against Scotland at Murrayfield, Edinburgh. Here Wales had the ball four times out of five throughout the whole of the match, were continuously attacking and yet lost. Much credit was due to W. I. D. Elliott and D. H. Keller, an Australian player in the previous season's touring side, who actually captained Scotland throughout the 1948-49 season and whose marking from the back row of the scrum was superb. But the faulty tactics of the Welshmen made it all much easier than it should have been. Scotland had unexpectedly beaten France in Paris in the opening match. But their attack was never so good again; and, though they beat Wales at Edinburgh, they looked only a moderate side. England were surprising the other way round. They lost the two opening matches against Wales and Ireland, both away, though the side fought pluckily. Then with some delightful football England proceeded to win both the games at Twickenham, France being beaten by 8 points to 3 and Scotland by 19 points to 3. Much of the credit for this improvement must be given to Ivor Preece (Coventry), who took N. M. Hall's place at outside half after the first two matches. Preece inspired the side with his vigour and enthusiasm and was greatly assisted by his two centres, C. B. Van Ryneveld (South Africa and Oxford university) and L. B. Cannell (Northampton and Oxford university). Cannell's try against France in the first two minutes of the game was one of the season's greatest thrills, and Van Ryneveld's consistently good form, his try against Ireland and his two tries against Scotland were great helps to his side.

TABLE I.—RUGBY UNION INTERNATIONAL MATCHES, 1949

	Played	Won	Lost	Points For	Points Against	Points
Ireland	4	3	1	41	24	6
England	4	2	2	35	29	4
France	4	2	2	24	28	4
Scotland	4	2	2	20	37	4
Wales	4	1	3	17	19	2

A great international figure disappeared from the game at the end of the season—Haydn Tanner, a scrum half-back who began playing with the famous Swansea club in 1935 and joined Cardiff after World War II. He had 25 full Welsh caps, to say nothing of dozens of other representative caps in and soon after wartime, and was undoubtedly the outstanding Rugby player of the late 1930's onwards.

Taking the game as a whole, the standard was not particularly high, much of it being marred by an excess of "spoiling" tactics by wing forwards, by poor passing and by a tendency on the part of midfield players to kick too much.

Lancashire won the county championship for the third time running, Gloucestershire once again being runners up. The champions were led by their famous captain, J. Heaton, up to the semi-final and the final. But in those two matches injuries kept him out of the game, and afterwards no more was seen of one of the finest centres Lancashire (or any other county) had ever had. The winning county owed a lot to G. Rimmer, their scrum half, the embodiment of pluck and persistence. He played for England in the first two matches of the season. The Oxford *v.* Cambridge match in Dec. 1949 was won by Oxford 3—0. Other competition winners in 1949 were: *Services tournament*, Army and R.A.F. tied, the Navy losing both their matches; *Hospitals cup*, St. Mary's beat Guy's; Middlesex seven-a-side, Heriot's beat London Scottish; Rosslyn Park public schools seven-a-side, Stonyhurst beat Taunton; Hawick won the Border League championship and headed Scottish club records with three defeats only.

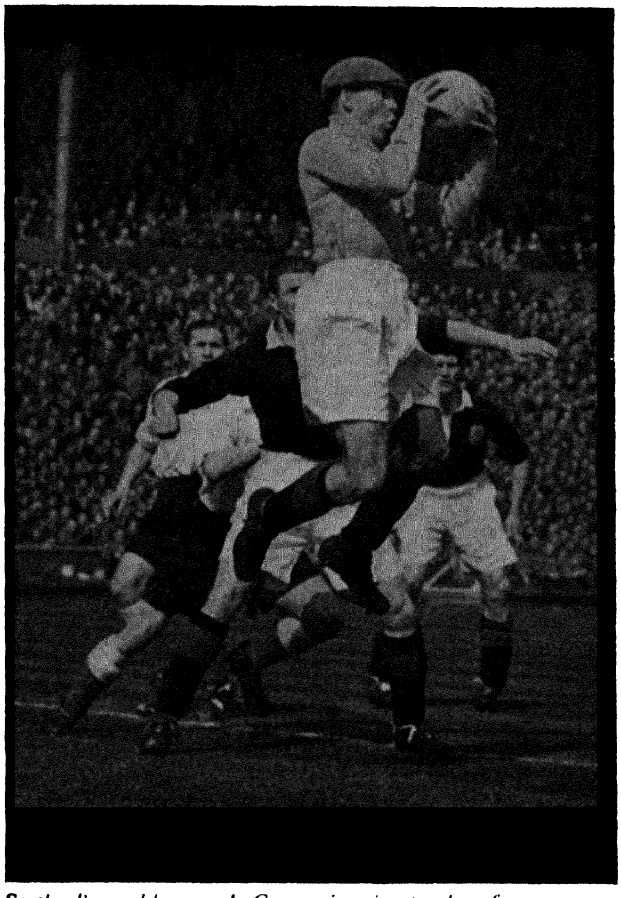
Rugby League. In international Rugby League football, a young Australian side came in 1948 for the first half of the season, the last test being played in Jan. 1949. The visitors lost all three, and except in the first match, which they lost by 21 points to 23 at Leeds, they were outplayed as well. The "home" international championship is played between England, Wales and France, each country playing the other two home and away. For 1948-49 France headed the list, losing only to England at Bordeaux. Many of the well known players continued to hold their places in the English side, and it was interesting to see that the four threequarters for Great Britain against Australia were the same in all three matches—J. Lawrenson (Wigan), H. Pimblett (Warrington), E. Ward (Bradford Northern, captain) and S. McCormick (St. Helens). G. Helme (Warrington), scrum half, played in all the matches, as did K. Gee (Wigan), J. Egan (Wigan), G. Curran (Salford), R. Nicholson (Huddersfield) and D. Valentine (Huddersfield) among the forwards.

Never was so much interest taken in the game. Attendances in 1949 beat all records with 95,000 at Wembley for the challenge cup final, 64,000 for the semi-final at Bradford and 75,000 for the league club championship at Manchester. At Wembley, the finalists were Bradford Northern and Halifax, and the play was most disappointing. It was a good back division side (Bradford) against a good forward side. But it was all very dull until the Bradford backs did get going late in the game and scored three goals and two tries to nil. E. Batten and T. Foster scored the tries and Ernest Ward, the captain, kicked all the goals. The club championship was much more worthy of the game. Here two of the most consistent teams of the year, Warrington and Huddersfield, were pitted against each other at Manchester. The football was of the highest class and the enthusiasm tremendous. Warrington, the leaders of the league table, were expected to win but they lost by a single point—12 points to 13. Huddersfield scored tries through J. Daly, L. W. Cooper and P. C. Devery (captain) who kicked two goals as well, and H. Palin, the captain, and Jackson (tries) and Palin and H. Bath (goals) scored for the losers.

Association. Though the attendances at matches were greater than ever and the transfer prices for players were of record dimensions (Derby County paid £24,000 to Manchester United for J. Morris), the standard of English international football was disappointing. In the great game of the year, that between England and Scotland, England were well beaten at Wembley. That was, as usual, in March. Two months later when the England side went on their customary continental tour, they were again outplayed, this time by Sweden at Stockholm. In a way this was ignominious, for for there is nothing like so much football played in Sweden as in Great Britain and it is all amateur. In the game against Scotland at Wembley, the visitors gave a brilliant display in the second half, after a first half in which the goalkeeper, Cowan (Morton), had saved his side time and time again. Then, with that great player Young (Glasgow Rangers)

TABLE II.—ASSOCIATION INTERNATIONAL MATCHES, 1948-49

	Played	Won	Drawn	Lost	Goals For	Goals Against	Points
Scotland	3	3	—	—	9	4	6
England	3	2	—	1	8	5	4
Wales	3	1	—	2	3	4	2
Ireland	3	—	—	3	4	11	0



Scotland's goal-keeper, J. Cowan, jumping to clear from a corner in the game between England and Scotland at Wembley, April 9, 1949. Scotland won by 3 goals to 1.

dominating his side's defence and W. Waddell (Rangers) and W. Steel (Derby County) indulging in skilful and persistent attacking, Scotland deservedly won by 3—1, thus taking revenge for England's victory at Glasgow the year before. Scotland were undisputed champions, for they won all three matches, beating Wales at Cardiff 3—1 and Ireland at Glasgow 3—2.

F. Swift was still in goal for England, W. Wright and N. Franklin in the half-back line and S. Matthews, S. Mortensen and J. Milburn among the forwards. But in one or two cases, Swift and Matthews for example, there were signs that their best days were over.

The Football Association cup final at Wembley was played between Wolverhampton Wanderers and Leicester City. The Wolves looked like getting there from the very start; for here was a beautifully balanced side, playing with skill and vigour and including in Wright, J. Pye and J. Hancocks some of the best players in the country and in S. Cullis, a former great player and now a great manager. Leicester City did wonderfully well to beat Portsmouth, one of the teams of the year, in the semi-final, and actually put up a better fight in the final than was expected. In the end, however, they were beaten 3—1. The Duke of Gloucester was present and handed the cup to the Wolverhampton captain. The Scottish cup was won by Glasgow Rangers who beat Clyde 4—1. The English league championship was won by Portsmouth, and their form all through the season had been consistently splendid. It looked at one time as though they would carry off the cup and the championship, a feat that had only been performed twice: by Preston North End in 1889 and by Aston Villa in 1897. But Leicester City most unexpectedly won the semi-final against them. Local enthusiasm, excellent team spirit and much skill carried Portsmouth to the top, where they finished 5 points ahead of Manchester United, after having maintained an unbeaten home record. The other division leaders were Fulham, after a terrific fight with West Bromwich one point behind and Southampton one point behind the Albion, in the second division; Hull City were clear away in division 3 (North), and Swansea Town 7 points ahead of their nearest rivals in division 3 (South). Thus, in the always interesting reshuffle at the end of the season, Preston and Sheffield United went down to division 2 and Fulham and W.B. Albion took their places. Notts Forest and Lincoln City went down from division 2 to division 3. The Scottish league championship was won by Glasgow Rangers with Dundee as runners-up.

Once more J. Carey, the Manchester United and Ireland captain, was a dominating figure in the game, and had the tremendous pleasure of leading an Eire side against England at Everton early in the 1949-50 season and beating this team of all the talents fairly and squarely, to most people's consternation. Dickinson was one of England's most promising players. He was a left half and helped as much as anybody to get Portsmouth to the top of the tree. Steel maintained his form and was one of the game's greatest inside forwards. In the amateur world, amongst the international matches honours were fairly even. The university match was one of the very best ever played between Oxford and Cambridge. In the end Oxford won by five goals to four. The F.A. amateur cup final was played at Wembley for the first time in the history of the tournament and there were 95,000 people present, which meant that the match would probably now always be played at Wembley. It was a dour game, with little in it between the sides. But what little there was was undoubtedly in Bromley's favour, and they beat Romford 1—0. (D. R. G.)

United States. Notre Dame, Oklahoma, California and Army were ranked as the four top college football teams of the United States in 1949. Behind these four teams in the nation-wide poll were Rice, Ohio State, Michigan, (the 1948 leader), Minnesota, Louisiana State and College of the Pacific.

College football enjoyed its customary popularity while professional football was suffering a marked drop in attendance. Although there was a slight drop in the east and on the Pacific coast, attributed to the televising of games, the college figures for the country as a whole were even higher than in 1948.

Controversy over the use of the "platoon" system, which many of the leading teams used, continued throughout the season. The employment of separate offensive and defensive units was decried by some of the coaches and there was considerable criticism of it in the press. It was argued that teams with large squads had an unfair advantage in their ability to make wholesale substitutions against opponents who lacked the manpower to do so. The majority of the coaches, however, appeared to be against any change in the rules that would restrict substitutions.

In professional football the expensive four-year war between the National league and the All-America conference came to a sudden end shortly before the Philadelphia Eagles and the Cleveland Browns were again established as the champions of the two leagues. Ever since the conference had started operations in 1946 to compete with the older organization for the public's support, the two leagues had gone their separate ways, refusing to get together on schedules. As a consequence professional football became an increasingly losing proposition for all but a few clubs.

The settlement of the two leagues' differences called for the formation of a new 13-club league, to be known as the

National-American Football league. All ten clubs operating in the National league and three from the conference were to be included. The new league was to be divided into divisions, National and American, and the winners in each were to meet in a play-off for the world championship, comparable to the world series in baseball.

Canada. The Grey cup, emblematic of the dominion football championship, returned to Montreal for the first time in 18 years as the Alouettes of that city defeated the Calgary Stampeders, 28-15, before a capacity crowd of 20,100 at Varsity Stadium in Montreal. The University of Western Ontario defeated McGill university, 12-9, to win the championship of the Intercollegiate Rugby Football union. (A. DA.)

FORAGE CROPS. The 1949 season was poor for all forage crops except hay. Grassland was affected in two ways. With so little rain, pastures dried out rapidly and by June farmers were reporting shortage of grazing. Pastures were stocked much more heavily than before World War II and this loss of grazing caused great difficulty, especially to dairy farmers. The season continued dry through September but with rain and mild weather in October pastures rapidly made some growth and stock improved in condition. Grasses undersown in a cereal crop in spring 1949 suffered severely and even in early October it was difficult on many fields to decide whether sufficient plants of sown grasses and clovers had survived to make a successful pasture. Farmers were consequently reluctant to plough up established pastures which might produce an adverse effect on the area of those crops, especially wheat, which normally follows ploughed pasture. Farmers who had established lucerne found it very valuable since its production was much less affected by the drought than that of pasture.

FORAGE CROPS IN GREAT BRITAIN

	Acreage (thousand acres)			Production (thousand tons)		
	1936-38 (average)	1948	1949†	1936-38 (average)	1948	1949†
Turnips and swedes	782	666	645	10,985	9,778	9,094
Mangels	227	281	275	4,082	5,918	4,735
Grassland for hay:						
permanent	4,916	2,962	2,936	4,997	3,251	3,143
rotational‡	1,974	2,724	2,932	2,780	3,976	4,444
Grassland for grazing:						
permanent	13,834	9,436	9,774			
rotational‡	2,206	2,760	2,789			
Rough grazings	16,476	17,211	17,200			

†Subject to revision ‡Includes lucerne
Source Ministry of Agriculture.

Feeding stuff for winter feeding continued to limit livestock production. Conservation of grass consequently received increasing attention, and the possibilities of reducing the cost of grass drying and the cost and reliability of silage-making received close study. Grass drying was not primarily carried out by producers for their own use; it was estimated that in 1948 about two-thirds of the production of dried grass was sold by the driers. The experiment in co-operative grass drying begun by the Milk Marketing board in 1948, with 12 centres which ranged in output from 540 to 1,200 tons, was continued in 1949. The form of contract with farmers was, however, modified to secure more efficient management, and attempts were made to retain a nucleus of trained staff through the winter.

The Committee on Industrial Productivity, in their first report (Cmd. 7665, H.M.S.O., London, 1949), placed great emphasis on the improvement of grassland as a means of reducing national reliance on imported feedingstuffs and proposed a target of 20% increase in output from grassland within four years. They stressed the great response made by grassland to nitrogenous fertilizer in relation to the estimate that not more than one-quarter of the grassland in the United Kingdom received it. (K. E. H.)

FOREIGN MINISTERS, COUNCIL OF: *see* COUNCIL OF FOREIGN MINISTERS.

FORESTRY. A national census of the forests and woodlands of Great Britain was completed during 1949. The lack of reliable data on the areas and composition of British woodlands had long been recognized and a census was already in progress in 1939 when war intervened and the work was not begun again until 1947. Information now available showed the small area existing of productive woodlands in Great Britain compared with other European countries and also the great devastation caused by wartime fellings. Only 5% of the land surface of Great Britain was classified as forest land and this consisted of nearly three million ac. of privately owned woodlands and half a million ac. of state forests. More than one-third of this total woodland and forest area was unproductive, having been clear-felled during the two world war periods and not yet replanted.

The various legislative enactments made to remedy this deplorable state of British forestry did not yet show much effect. The ambitious programme of state afforestation, to bring the total area of forests up to five million ac. at the end of 50 years, had begun to give important results and the annual target figures were almost reached again in 1949, but in the great effort to get large areas planted it was considered by some forestry experts that insufficient attention had been paid to the best ecological relation between the species of trees planted and the appropriate sites. The grant of financial assistance to private owners, under certain conditions, known as the "dedication" scheme, made little progress and a small increase in the planting grant per ac. together with new supplementary grants for the thinning of plantations were made during the year to stimulate dedication and to encourage private forestry.

Owing to the shortage of imported timber, excessive fellings in home woodlands continued after World War II and the existing controls had to be tightened by a considerable reduction on the amounts of timber licensed.

Serious insect damage was reported during 1949 from several regions. This was probably chiefly due to the lowered resistance of the trees caused by the prolonged drought, especially in the south of England. In south Wales increased infestation was said to be due to insects imported with pit-props and other round timber from France and Germany.

The British Forestry commission and the Colonial Forestry service both considerably increased their staffs during the year by the recruitment of forestry graduates from the universities. The five postwar forestry schools for the training of woodmen and foremen in Great Britain also produced their first large batches of qualified men in 1949 and most of these men obtained state or private forestry appointments. The chief subjects of forestry research were the afforestation of peat and heath moorlands, the maintenance of fertility in nurseries and the study of the numerous varieties and races of poplars.

Commonwealth. In the Commonwealth the heavy postwar demand for timber intensified the search for new sources of commercially useful timber; and formerly inaccessible areas were opened up by modern mechanical methods of logging and the construction of extraction roads.

In British Guiana and in west Africa important projects were made for more extensive use of the forests, and new sawmills and plywood factories were placed under construction. In east Africa some of the plantations formed before the war began to yield their first crops of sawn timber. The construction of a pulp mill was put into effect in Basutoland and a wattle bark factory in Tanganyika.

In Malaya the unsettled state of the country hindered forestry progress but an important development was the compilation by the forest department of new timber grading

rules. These rules, based on the ultimate commercial uses of the various grades of timber, created much discussion amongst foresters, timber importers and sawmillers, as the principles involved might be of great assistance in the grading and marketing of the lesser known species of tropical hardwoods not only in Malaya but in other parts of the Commonwealth.

One of the chief developments in the fields of forest utilization during the year was in the uses of wood waste products, from both sawmills and papermills and also from forest waste in the form of tree tops, branch-wood and bark. In Canada and in Scandinavia new fibre-board plants were constructed where sawmill waste was treated chemically and mechanically, the finished product being obtained by pressure at a very high temperature

In Australia there was a great increase in the use of eucalyptus hardwoods for paper manufacture and 1949 saw the establishment of new pulp mills and a steady increase in the Australian output of high quality paper of all grades.

Europe. In European countries the disastrous fire in the pine forests of the Landes in southwest France was one of the most important events of the year More than 360,000 ac. of valuable forests were destroyed, several villages devastated and over 80 lives lost. A national day of mourning was declared in France for the victims. The pine forests of the Landes are the greatest source of resin and turpentine in Europe and the economic loss to France of such a large part of the forests was all the more serious owing to the great fires in the same area in 1944 and 1945.

In Germany and in Austria much progress was made in the regeneration of the forests over-felled during the war and postwar years, both by methods of natural regeneration and by the establishment of large nurseries for forest seedlings and transplants.

In Belgium the afforestation of the Campines and other areas of poor soils continued, and a new research station was opened for the cultivation and study of hybrids of poplars.

A parasitic disease known as the Chestnut blight (*Endothia parasitica*) caused considerable damage and economic loss in Italy, and to a less extent in Portugal and parts of Spain. There are over two million ac. of chestnut forest in Italy, producing annually about 350,000 metric tons of chestnuts. The wood is used for fuel and for construction but is chiefly important as the basic raw material for tannin. Direct measures to cure or prevent the disease were not effective and research was continued to find varieties of chestnut species resistant to the parasite. (A. H. LD.)

United States. The U.S. Forest service issued in 1949 a comprehensive summary and analysis of the postwar forest situation in the United States. In this report it was estimated that the potential productivity of the nation's forest land was enough eventually to supply domestic needs, to provide for national emergencies and to help in some measure towards meeting the world shortage of timber. About one-third of the total land area was forest land, and some 461 million ac. were suitable and available for growing commercial timber. However, the supply of saw-timber was now steadily shrinking. More timber was being cut or destroyed each year than was replaced by growth. Timber quality was also deteriorating, the annual drain being principally in the better saw-timber, particularly softwoods, and the growth was in small, low-grade trees and inferior hardwoods. Three-quarters of the commercial forest land was privately owned including generally the best growing and most accessible sites, but 64% of cutting on these lands was still poor or destructive and only 8% up to really good forestry standards.

If the nation's estimated future needs were to be met the annual growth of all timber would have to be increased by one-half and the present saw-timber growth rate doubled. The Forest service recommended: (1) a system of public regulation of cutting that would stop forest destruction and keep forest lands reasonably productive; (2) expansion and intensified management of public forests; (3) increased public assistance to private owners including increased protection against fires and destructive insects and diseases, increased aid in reafforestation, a federally sponsored credit system to provide long-term loans, a federally sponsored insurance system to reduce the risks inherent in forestry enterprises, increased technical advice and assistance for small forest owners and expanded research in forestry and wood utilization.

In a proclamation issued on June 15, 1949, President Truman renamed the Colombia National forest the Gifford Pinchot National forest in memory of the pioneer American conservationist and the first chief of the United States Forest service. The formal dedication took place on Oct. 15 under the joint auspices of the Forest service and the Society of American Foresters, a professional organization of which Pinchot was co-founder.

This forest covered 1,250,000 ac., had a timber growth which was estimated to yield 200 million board ft. a year, in perpetuity and had many recreational and scenic attractions.

Fires burned many thousands of acres of forest and watershed lands in the western states during the late summer months of 1949, the worst being in the Helena National forest, Montana, where 13 men lost their lives. The Forest service reported a total of 7,657 fires in western national forests between January and September compared with 4,031 in the same period of 1948.

The Anderson-Mansfield act passed by the United States congress in 1949 authorized an accelerated programme of reafforestation and re-vegetation of forest and range lands in the national forests. The act provided for a 15-year programme with appropriations for reafforestation authorized in progressively increasing amounts from $3 million for the fiscal year 1951 up to $10 million for 1955 and each succeeding year until 1965. For range re-vegetation appropriations were authorized beginning with $1·5 million for 1951 and increasing to $3 million between 1955 and 1965. The congress also passed legislation authorizing increased federal appropriations for co-operation with the States for the protection of state and private forest lands from fire and in the production and distribution of forest planting stock to private land owners. (C. E. R.)

United Nations. At the instigation of the Food and Agriculture organization of the United Nations, the third World Forestry congress was convened in Finland in July. Thirty countries sent official representatives and several international organizations were also represented, the total number of members of the congress exceeding 500. A wide range of forestry problems was discussed, including silviculture, forest surveys, economics and policy, forest utilization and wood industries. (*See* also NATIONAL PARKS; SOIL CONSERVATION; TIMBER.) (A. H. LD.)

FORMOSA (Taiwan). A large island in the western Pacific, separated from China by the 90 mi. wide Straits of Formosa. Area: 14,589 sq. mi., including Pescadores and neighbouring islands. Pop (1949 est.): 7,000,000, including Chinese Nationalist troops and refugees from the mainland. Chief towns (pop., 1940 census): Taipei (formerly Taihoku, cap., 326,407); Kaohsiung (Takao, 152,265); Tainan (142,133) and Chilung (Keelung or Kiirun, 100,511). Language: mainly Chinese. Religions: Buddhism, Confucianism and Taoism.

History. As a result of the advances of Chinese Communist forces on the mainland, during 1949 Formosa was converted into a Chinese Nationalist military stronghold. Wei Tao-ming, former ambassador to the United States, was replaced as governor in Dec. 1948 by General Chen Cheng, former chief of staff of Nationalist forces in Manchuria. On Dec. 8, 1949, the capital of the Nationalist government was moved from Chengtu (*see* CHINA) to Taipei, capital of Formosa. On Dec. 15 Wu Kuo-cheng (K. C. Wu), former mayor of Shanghai, succeeded Chen as governor. At the same time Generalissimo Chiang Kai-shek appointed General Sung Li-jen military commander of the island.

At the end of 1949 Formosa was one of the two territories remaining in the control of the Nationalist government, the other being Hainan island. It was estimated that Generalissimo Chiang Kai-shek had on Formosa about 200,000 troops, an air force of some 250 bombers and fighters and a navy of about 150,000 tons consisting of destroyers and smaller vessels. There were also about 200,000 troops on Hainan.

Upon taking over the administration of the island, the Chinese issued a special currency for Formosa, the Taiwan dollar, based on the former Japanese yen notes. In July, 1948, the official exchange rate between Taiwan and Chinese National dollar was 1 to 1,130. In 1949 a new currency, the new Taiwan yuan, was issued and the Taiwan dollar was eliminated. In Nov. 1949 the total note issue amounted to N.T.Y. 144 million. It was reported that the gold and silver of the Nationalist government's treasury had been sent to Formosa during 1949.

Agriculture. The gradual rehabilitation of agriculture since the close of World War II resulted in large increases in production in 1948-49 although output was still below prewar levels. Estimated production (1948-49, in short tons): rice 1,320,000; sugar 550,000; tea 10,560; pineapples 17,600; bananas 85,800, oranges 32,450; tobacco 3,700; jute 14,850; sisal 2,200. The cultivated area in 1949 was estimated at 2,055,000 ac. or 23% of the total land area.

Industry. Production (1948 in short tons, unless otherwise stated): coal 1,815,000; salt 396,000, copper 990; aluminium 2,750; cement 258,900; refined sugar 295,000; chemical fertilizers 42,100; paper 7,150; caustic soda 5,280; hydrochloric acid 3,410; bleaching powder 3,080; cotton yarn 884; cotton cloth 4,480,000 yd.; gold 12,200 troy oz.; crude petroleum 36,000 bbl., refined petroleum 700,000 bbl.; electric power 832 million kwh.

Foreign Trade. Chief exports in 1948 were rice, sugar, coal, salt, cement, tea and fruits. Chief imports were raw cotton, machinery and crude petroleum. Exports during 1948 amounted to the equivalent of U.S. $17,228,000, while imports totalled $4,786,000.

Transport and Communications. Railways (1946): govt., 981 mi., private 1,500 mi., tramways 500 mi. Roads (1946), 10,000 mi, including 2,200 mi. of main highways. In 1939 there were 220 telegraph offices, 195 post offices and 123 telephone exchanges.

(S. NR.; X.)

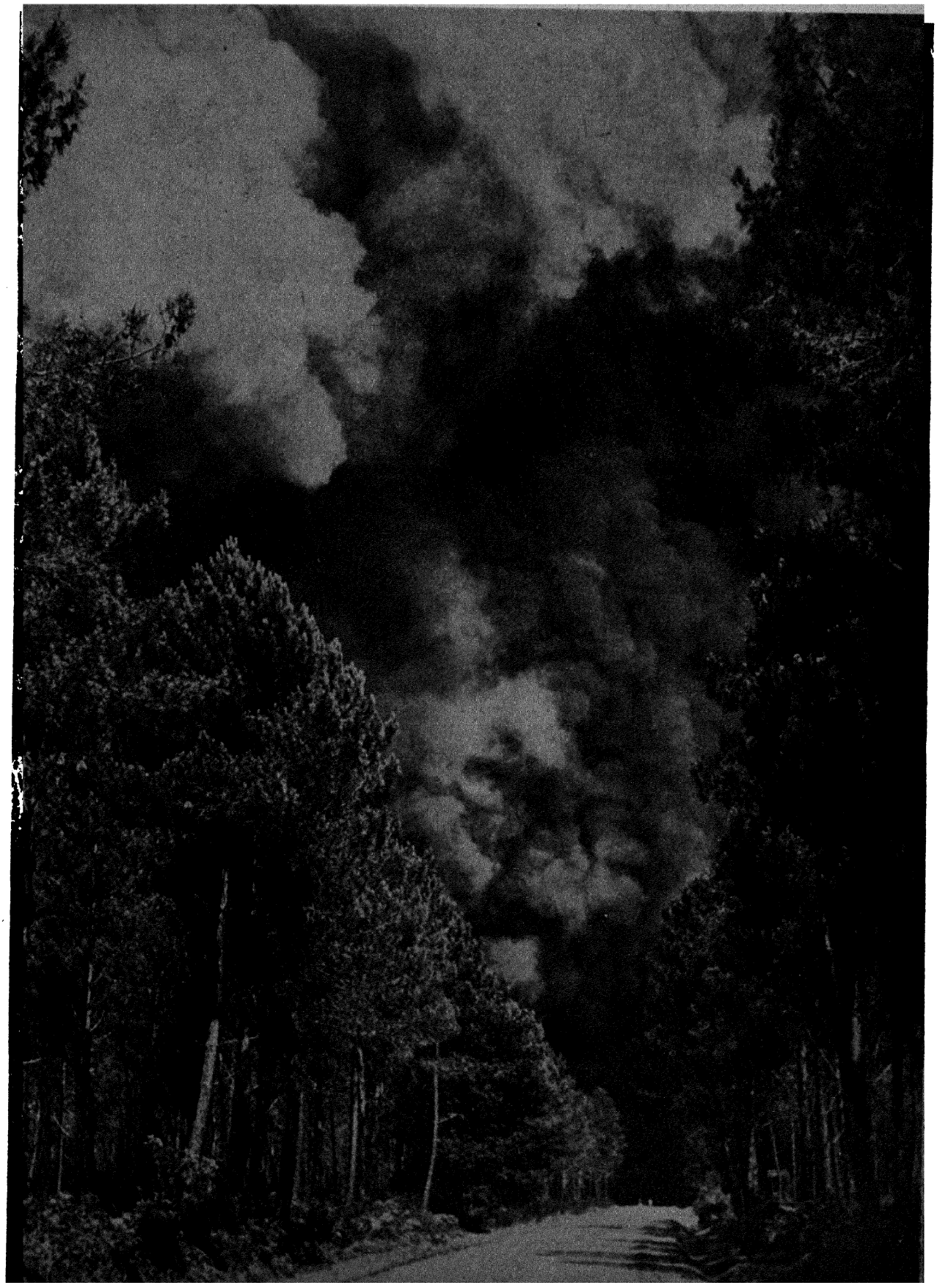
FRANCE. A republic of western Europe bounded on the north by the English channel, on the east by Belgium, Luxembourg, Germany, Switzerland and Italy, on the south by the Mediterranean sea, on the southwest by Spain and on the west by the Atlantic ocean. Area: 212,737 sq. mi., including the Mediterranean island of Corsica (3,367 sq. mi.). Pop. (March 1946 census): 40,828,884 including members of armed forces, crews of the commercial navy abroad and the personnel of the military government in Germany and Austria; (Dec. 1949 est.) 41,800,000. Language: French is universally spoken but there are also other regional languages or dialects: German in Alsace and part of Lorraine; Breton in Brittany; Flemish in the northern corner of the Nord *département;* Provençal in the Alpes Maritimes, Basses-Alpes, Var and Bouches-du-Rhône *départements;* Catalan in Roussillon (Pyrénées Orientales); Basque south of Bayonne, and Italian in Corsica. Religion: mainly Roman Catholic with *c.* one million Protestants and over 225,000 Jews. Chief towns (pop., 1946 census): Paris (cap., 2,725,374); Marseilles (636,264); Lyons (460,748); Toulouse (264,411); Bordeaux (253,751); Nice (211,165); Nantes (200,265). President of the republic, Vincent Auriol (*q.v.*); prime ministers in 1949, Henri Queuille and (from Oct. 28) Georges Bidault (*q.v.*); minister of foreign affairs, Robert Schuman (*q.v.*).

History. The year 1949 passed off with much greater tranquillity than the preceding one. There was no repetition in 1949 of the big and partially violent strikes of 1948, much less of the greater violence of 1947. There was also a much greater stability of price level and no resort to such exceptional measures as the forced loan and the withdrawal of all 5,000 franc notes at the beginning of 1948. Interest in politics and in trade unionism certainly declined. Communist propaganda was increasingly concerned with "peace," by which was meant opposition to the E.R.P. and the North Atlantic treaty. By December the only rationed commodity was coffee; in the course of the year milk had once more become legally available to adults in towns and such small luxuries as *croissants* had re-appeared. Many price controls however remained in force. In spite of them the tendency of the cost of living in the second half of the year was to rise. As compared with incomes, prices—though relatively stable—were high throughout the year. The fight to secure a balanced budget was not yet satisfactorily won, partly because of heavy expenditures in Indo-China and partly because so many of the biggest nationalized undertakings continued to have deficits. The more tranquil course of political life led to a weakening of the double pressure on the Fourth Republic from the Communists on the one hand and the Gaullists, demanding a strengthened executive, on the other. But the working of the republic's machinery had not noticeably improved. The long premiership (by French standards) of Henri Queuille was in part achieved by an attitude that his critics described as "immobilism" and on his resignation there were two false starts and an interregnum of over three weeks before his government could be replaced.

The Double Pressure Recedes. The prestige built up by the Queuille government during the Nov. 1948 strikes was reinforced by its two big parliamentary successes in December. The first was a vote of confidence by 377 to 181 in recognition of the government's vigorous protest against the Anglo-American agreement on the Ruhr. This protest, backed by unanimous French opinion, was the prelude to three-power negotiations which resulted in the creation of the Ruhr authority and the Office of Security. On Dec. 29 the French government congratulated Robert Schuman, minister of foreign affairs, on the results achieved. The government's second success consisted in inducing the National Assembly to approve by 341 to 231 an accelerated procedure for voting the budget, by which in the first instance only maximum figures of expenditure for the different ministries should be voted while the credits were to be examined in detail later. In this form the budget was finally voted on the night of Dec. 31, providing for ordinary expenditure of Fr.1,250,000 million and extraordinary (reconstruction and re-equipment) of Fr.615,000 million.

On Jan. 13 the government in fulfilment of its promises to stabilize, and indeed reduce, prices no less than wages issued a series of decrees and administrative instructions aimed at diminishing profit margins in industry and in the distributing trades—especially those of the middlemen dealing in farm produce, of which the prices to the producer were falling without proportionate advantage to the consumer. As on some previous occasions there was more talk of price reduction than was warranted by a situation in which it was

In Aug. 1949 widespread fires swept throught the forests in the Gironde and the Landes devastating about 112,000 ac. of forest land. The photograph on right is of the pine forests of Facture.



already a great deal to have achieved stabilization. This naturally led later to some disappointment; but in spite of the scepticism of the general public the government achieved a creditable interruption of inflationary tendencies. On Jan. 21 the government announced the issue of a loan at 5%. Since purchasers of scrip for Fr.100,000 were able to exchange for new scrip an equal amount of older loans issued at lower rates of interest, the interest of the new loan was really at between 6%-7%. At the beginning of March Maurice Petsche, the minister of finance, announced that the loan had brought in Fr.108,000 million of fresh money and that in consequence it would be unnecessary to impose any additional taxes in the current year.

The result of the loan was the more satisfactory in that both Communist and Gaullist propaganda against the government were of a character to discourage subscription. The government had had other difficulties. The minister of justice, André Marie, resigned on Feb. 13 when his health (undermined in a concentration camp during the war) collapsed after a running fight with Communists and Gaullists who alleged that a decision had been improperly taken not to prosecute a big building firm which had carried out important military contracts for the Germans during the occupation. Simultaneously the government was under constant pressure to prosecute Communist leaders for propaganda which by alleging that France was becoming the tool of U.S. aggressive intentions against the U.S.S.R., the true friend of the French people, was quite clearly intended to sabotage the integration of France into any western defence system. The government in fact only prosecuted some minor figures, being well aware that the speeches of leading Communists were much too cleverly worded to be actionable and that their words would have most effect if spoken from the dock. The Communists meanwhile had over-reached themselves by provoking Victor Kravchenko to a libel suit. The three months' trial was to end on April 4 in a verdict not altogether flattering though in principle almost entirely favourable to Kravchenko; very great damage was done to the reputation of the Soviet Union in France by the evidence given about conditions there (which the judge was to declare mainly irrelevant to the issue).

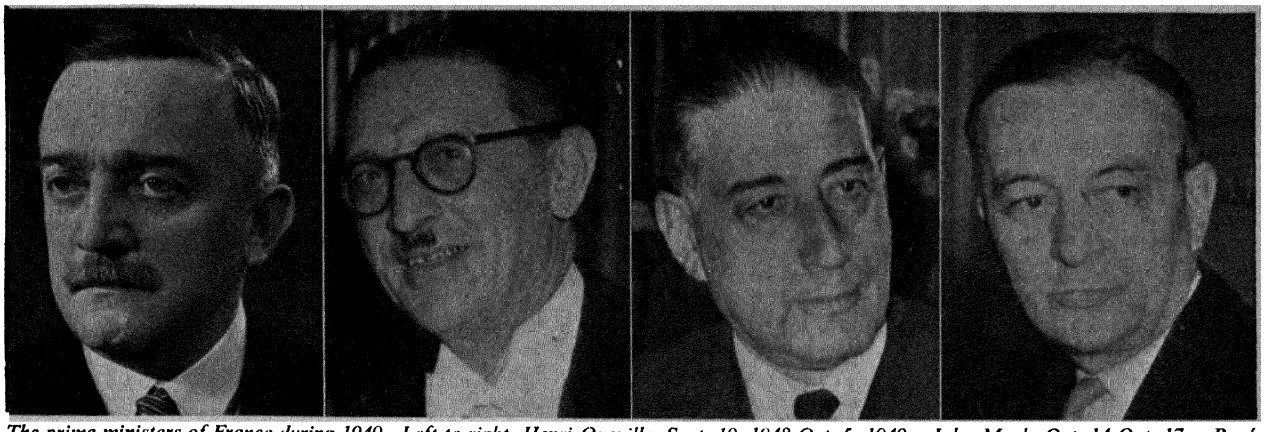
The Queuille government's prestige reached its height at the county council (conseils généraux) elections on March 20-27. These affected half the seats in every county council except that of the Seine (Greater Paris). According to the statistics of the Ministry of the Interior the Communists won 23·54% of the votes, as compared with 26·9% in the same areas in Nov. 1946, and the Gaullists, who had not existed as a party in Nov. 1946, won 25·34%. A generous computation could therefore attribute to the coalition parties 51·12% of the votes. Since the Seine *département*, where there had been no voting, was one of the areas where both Gaullists and Communists were strongest, since further it was possible to disapprove of the government without supporting either of these parties, the claim of an absolute majority was somewhat specious; but the elections did clearly show that there were at least nearly twice as many people supporting or prepared to tolerate the present regime than there were in either organized bloc of opponents. It was no longer possible for either Gaullists or Communists to claim convincingly that parliamentary republicanism was the weakest political cause in France.

The Coalition Weakens. It might be that this success contributed to weaken the cohesion of the coalition when the National Assembly met after the Easter vacation. The government had the bad news for it that the budget was not as watertight as had been thought, and that the deficits of the nationalized undertakings were increasing. The Government hoped to meet the gap of Fr.83,000 million by economies, including cutting down the investment programme and increasing the price of petrol. Queuille however could only induce the cabinet to agree on the proposals to be laid before the National Assembly when that body had already been sitting a week. The government had finally to abandon its own petrol proposals and accept those of the assembly, which proved in practice to be based on totally erroneous suppositions.

Meanwhile the rivalries between trade union federations were shaking the coalition. When the Socialist trade unionists left the C.G.T. (Confédération Générale du Travail) in Dec. 1947 and formed the "Force Ouvrière" trade union confederation they had declared their aim was to improve the purchasing power, not merely the nominal wage of the worker. They had concentrated their attention therefore on bringing prices down. The stabilization of prices was not sufficient satisfaction for their troops. The F.O. trade unions were strongest amongst minor officials and "white-collar" workers, and largely unsuccessful in competing with the Communist organizations in the mines, heavy industry and the building trade. In the summer they felt it urgent to show that they were prepared to lead strikes, though they rejected all collaboration with the Communist-led C.G.T. The catholic trade union federation (C.F.T.C., or Confédération Française des Travailleurs Chrétiens) was no less anxious than the Socialists to show that they were not the tools of capitalism. Possibly because they felt more sure of their troops, they declared themselves ready on occasion to co-operate with Communist trade unions. Both of these trade union federations began exerting pressure on their political friends in the coalition—Socialists in the one case, M.R.P. (Mouvement Républicain Populaire) in the other—to resist the tendencies of the increasingly dominant Conservatives. The F.O. civil servants' union called on June 15 a 24-hr. strike of government employees in support of a demand for re-grading (that is, in fact, salary increases) which brought work in a number of public offices to a standstill, though it did not affect the police. There were divergencies within the cabinet as to the attitude to strikes in the higher administrative levels; the Socialists had their way and there were no serious sanctions

The government recovered prestige when Jules Moch, the Socialist minister of the interior, showed himself able to permit without disorder both a Gaullist and a Communist demonstration in close proximity on June 18. A very powerful police force was placed between them but on both sides there was an evident lack of desire for trouble. The Socialist party congress on July 18 approved of the maintenance of the coalition. Almost at once, however, divergent tendencies became apparent again when it was discovered that Daniel Mayer, the Socialist minister of labour, had granted holiday bonuses to the workers of the social insurance system, thereby setting a precedent for yielding to a demand which was being pressed in most branches of industry. The Conservative wing of the coalition protested that this was the thin end of the wedge of wage increases which would destroy the whole policy of stabilization.

The debate on the North Atlantic treaty (ratified on July 27 by 395 votes to 189) proved convenient cover for negotiations to hold the coalition together at least until the beginning of the summer recess. It was only by a majority of 289 to 230 that this was achieved before the National Assembly dispersed on July 31. It was hoped that, with parliament absent, the government would hold together. By the end of September there were increasing rumblings of wage claims and Daniel Mayer was advocating the payment of a bonus to the worst paid categories of workers. It was the backwash of British devaluation that finally made agreement within the Queuille



The prime ministers of France during 1949. Left to right, Henri Queuille, Sept. 10, 1948-Oct. 5, 1949; Jules Moch, Oct. 14-Oct. 17; René Mayer, Oct. 20-Oct. 22; Georges Bidault, from Oct. 27.

government impossible. The unexpectedly low dollar-sterling rate which the British government chose forced the French government to decide on a further devaluation of the franc which all plans had been made to avoid. The fear that this would mean a rapid increase in prices both stiffened the demand for a wage increase and the resistance to it of those who feared inflation. Queuille resigned on Oct. 5. The National Assembly was hurriedly summoned.

The Two Weeks' Crisis. On Oct. 8 President Auriol invited Jules Moch, the Socialist minister of the interior, to form a government. Moch, who was more respected than popular with those who appreciated his services to his country, was particularly hated by both Gaullists and Communists. After a violent all-night debate he was invested as prime minister on Oct. 14 by 311 votes, that is, by one more than the constitutional minimum. On the night of Oct. 17 he informed President Auriol that he could not secure the necessary agreement between the parties to form a cabinet. On Oct. 18 President Auriol asked René Mayer, a Radical, to present himself before parliament but, though he secured investment by 341 votes in the National Assembly, he also had to inform the president on Oct. 22 that he could not form a cabinet. This was due to his own party's objecting to Daniel Mayer remaining minister of labour and the Socialist party's refusal to co-operate on any other terms. Finally, on Oct. 23, the President asked Georges Bidault, the leader of the M.R.P. and former minister of foreign affairs, to form a cabinet. Although the country had remained astonishingly calm, almost indifferent, through this long interregnum, anxiety was beginning to grow and helped Bidault to secure investment on Oct. 27, by 367 votes to 183, with 53 abstentions. Only the Communists, led by Jacques Duclos (*q.v.*), voted against Bidault. Most prominent among the abstentionists was Paul Reynaud (*q.v.*) who during the crisis was stressing the necessity of a more dynamic economic policy.

Bidault formed his government on Oct. 28; Queuille remained in it as minister without portfolio, while Schuman kept foreign affairs, Moch the interior and Petsche the ministry of finance; Daniel Mayer declined office in order to facilitate the formation of the government and was succeeded by a fellow Socialist, Pierre Segelle; René Pleven, who had for long deplored the fierce opposition between the Gaullists and the parliamentary Republicans, became minister of national defence; René Mayer occupied the ministry of justice.

Bidault like his two unsuccessful predecessors had committed himself both to a non-recurring bonus for the lowest paid categories of workers and to the return from government control of salaries to collective bargaining. The first commitment was fulfilled but was at once denounced by the trade unions as totally insufficient. The Socialist-led F.O. trade unions called a 24-hr. general strike for Nov. 25 in support of a general wage increase and the Communist-led C.G.T. declared its approval. The strike was effective in all the trades dominated by Communist unions and much less so in those dominated by Socialists. The approval of the strike by the executive committee of the Socialist party after it had been declared harmful to the public interest by the prime minister of a government which included Socialist ministers, was a reminder that the coalition remained badly flawed. The government's bill for restoring collective bargaining immediately met with sharp criticism because it provided for compulsory arbitration.

The budget estimates for 1950 laid before the National Assembly provided for ordinary expenditure of Fr.1,535,000 million and an extraordinary one of Fr.740,000 million. The government was asking for Fr.240,000 million of new taxes, but there was sharp resistance to this proposal.

Difficulty in working a coalition of such diverse parties increased expectation of new elections which, however, could only be brought about if the National Assembly curtailed its own existence by a law. Since all the parties desiring elections also desired a change in the electoral system first, and the two parties not desiring elections or a change in the law (M.R.P. and Communists) had an absolute majority in the National Assembly, it was difficult to see how elections were to be brought about.

General Charles de Gaulle (*q.v.*) in his press conference on Nov. 14 seemed to show more inclination towards co-operation with other political groups in internal politics, but was if anything more critical than before of France's English-speaking allies. Criticism was widespread, not least in the National Assembly, of Great Britain for her attitude towards the Council of Europe, which became a very important element in France's political hopes. There was also a good deal of anxiety about the alleged desire of important U.S. groups to arm Germany and Spain rather than France.

From April 20 to April 25 a World Congress of Partisans of Peace was held in Paris under Communist auspices. This brought into existence a permanent organization under cover of which a good deal of Communist activity took place.

The official French population statistics for 1948 recorded a further small increase of births (864,000 as compared with 863,000 in 1947) and a further fall of deaths (506,000 as compared with 533,000) so that the surplus of births over deaths was for the second time running the highest in the statistically recorded history of the country. (D. R. Gi.)

Education. (1947-48) Elementary schools: state infant 3,463, pupils 373,649, private infant 185, pupils 14,271; state elementary 70,014, pupils 3,735,657, private elementary 11,003, pupils 899,036; state higher elementary, pupils 173,504, private higher elementary, pupils

61,127; total elementary 84,665, pupils 5,257,244. Secondary schools: boys 589, pupils 256,820, girls 390, pupils 170,188; total 947, pupils 427,008. Lower professional schools numbered more than 220 with over 80,000 pupils. Higher education: state universities 17, students 129,025, including 40,465 in the law faculties. There were 10 other state institutions of higher education, 6 free (Catholic) universities and more than 80 institutions of higher technical education.

Agriculture. Tables I, II and III show respectively the production of main crops, the amount of livestock and the production of certain foodstuffs.

TABLE I.—AGRICULTURAL PRODUCTION ('000 metric tons)

	1934-38	1945	1946	1947	1948	1949
Wheat	8,143	4,209	6,759	3,266	7,634	7,850
Rye	769	268	462	384	638	616
Barley	1,074	659	1,063	1,123	1,273	1,412
Oats	4,572	2,598	3,771	2,813	3,380	3,126
Potatoes	17,158	6,057	9,882	13,294	16,719	10,423

TABLE II.—LIVESTOCK ('000 head)

	Nov. 1938	Nov. 1945	Oct. 1948
Cattle	15,622	14,272	15,437
Pigs	7,127	4,386	5,678
Sheep	9,872	6,700	7,408
Horses	2,692	2,258	2,418

TABLE III.—FOODSTUFFS

	1934-38	1946	1948	1949
Meat (million metric tons)	1,700	1,250	1,675	2,200
Milk (million gal.)	3,211	2,090	2,530	2,750
Fats ('000 metric tons)	325	210	255	400
Sugar ('000 metric tons)	769	688	860	900

Food rationing ended in France in Dec. 1949 and the Food commissariat was abolished.

France is the world's largest producer and consumer of wine. In 1935-38 its share in world wine production excluding the U.S.S.R. was about 30%, in 1947-49 about 27%. In the four prewar years the average consumption of wine in France per head of the population was about 36 gal.; in 1945-47 it was 22 gal.

TABLE IV.—WINE PRODUCTION, IMPORT AND EXPORT (million Imp. gal.)

	1935-38	1945	1946	1947	1948
Wine produced	1,237	629	796	1,129	1,031
Wine imported*	289	19	23	158	—
Wine exported†	18	21	26	23	—

*Mainly from Algeria. †Mainly champagnes, clarets and Burgundy wines.

Wine production in 1949 was estimated at 920 million gal.

Industry. The progress in production in basic industries is summed up in Table V (excluding the Saar).

TABLE V.—INDUSTRIAL PRODUCTION

	1938	1946	1948	1949
Coal ('000 metric tons)	47,600	49,300	45,130	53,032
Gas (million cu. m.)	1,692	2,448	2,520	2,400
Electricity (million kwh.)	20,800	23,000	27,500	29,700
Liquid fuel ('000 metric tons)	7,000	2,800	8,300	11,400
Steel ('000 metric tons)	6,200	4,400	7,235	9,124
Cement ('000 metric tons)	3,564	3,372	5,376	6,400
Nitrogen fertilizer ('000 tons)	177	127	182	213
Motor vehicles: Cars	182 000	30,480	100,080	100,000
Motor vehicles: Tractors	1,700	1,900	12,400	17,100
Woven cotton fabrics ('000 tons)	145·2	100·8	151·2	150
Wool yarn ('000 metric tons)	117·6	92·4	133·2	130

Index number of employment in manufacturing stood in 1949 at 113 (1937=100); the monthly average of unemployment during the year was 38,000 against 373,600 in 1938. The index number of industrial production in 1949 was 112 (1937=100). This increased production was achieved by an addition to the labour force of 300,000 workers, by the prolongation of the working week from 39 to 45 hr. and the return to the same level of productivity per hour as before the war.

Foreign Trade. In Table VI the value of the imports and the exports is given in million francs.

TABLE VI.—EXTERNAL TRADE

	1945	1946	1947	1948*	1949*
Imports	56,925	234,042	346,692	672,673	921,794
Exports	11,399	101,406	213,420	434,047	782,022
Adverse balance	45,526	132,636	133,272	238,626	139,722

*Including the Saar.

Main sources of imports in 1949 were: French overseas territories 29%, United States 19%, Arabia 6·6%, Germany 6·4%, Australia 4·5%, Great Britain 3·6%. Main destinations of exports: French overseas territories 47%, Great Britain 8·4%, Belgium-Luxembourg 6%, Netherlands 4·8%, Germany 4·7%, Switzerland 3·9%, Argentina 2·4%, United States 2·2%.

Transport and Communications. By 1949 the French national railways system (25,271 mi.) was virtually reconstructed with all its prewar facilities. In the autumn of 1944 only isolated sections totalling 11,125 mi. were open to traffic. More than 2,500 bridges and viaducts and some 70 tunnels which had been destroyed during World War II had been repaired or rebuilt. In 1948 the monthly average of passengers carried was 2,554 million passenger-km. as against 1,837 million passenger-km. in 1938. The monthly average of freight carried in 1948 was 3,457 million ton-km. as against 2,210 million ton-km. in 1938. Roads (1948): 631,000 km. Navigable waterways (1947): 8,458 km. Shipping (Sept. 1, 1939) merchant vessels 670, gross tonnage 2,733,633; (Dec. 31, 1949) merchant vessels 657, gross tonnage 2,709,786. Telephone (1947): subscribers 2,108,000. Wireless receiving set licences (1947): 5,728,000.

Finance and Banking. Table VII gives the postwar budget figures with the last prewar budget as a measure of comparison.

TABLE VII.—REVENUE AND EXPENDITURE ('000 million current francs)

	1938*	1946*	1947*	1948*	1949†	1950†
Revenue	53·8	815·6	652·0	1,021·0	1,250·4	2,218·0
Expenditure	52·2‡	1,286·9	1,015·0	1,596·0	1,870·0	2,217·5
Deficit	+1·6	—471·3	—363 0	—575 0	—619·6	+0·5

*Actual. †Estimates ‡Extraordinary expenditure for defence not included.

Public debt (million francs): internal (Sept. 1, 1939) 432,634, (June 30, 1948) 2,264,734; external (June 30, 1948) 696,217. Currency circulation (million francs): (Dec 1938) 111,000; (Dec. 1945) 570,000; (Dec. 1949) 1,278,000, including the Saar. This more than eleven-fold increase of the note circulation in 11 years was a natural consequence of the depreciation of currency. The value of circulation as expressed in dollars was $3,170 million in 1938 and $3,650 million in 1949. Between Dec 1932 and Dec 1949 the nominal value of the gold reserves decreased only from Fr 83,128 million to Fr. 62,000 million, the successive devaluations of the franc and re-estimation of the value of the gold reserve in new currencies concealing the true picture. In weight, however, the gold reserve decreased from 4,900 metric tons in Dec. 1932 to 464·6 metric tons on Aug. 31, 1949. On Sept. 20, 1949, the franc was devalued for the tenth time since July 25, 1928, the new exchange rates being $1=Fr 350 and £1=Fr. 980.

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(K. SM.)

FRANÇOIS-PONCET, ANDRÉ, French politician and diplomat (b. Provins, Seine-et-Marne, June 13, 1887), was educated at the *Ecole Normale Supérieure*. He served in World War I as an infantry lieutenant and, from 1916, worked in Switzerland for the French Foreign Office. In 1919 he was a member of a French Economic mission to the United States and in 1920 became director of the Société d'Etudes et d'Informations Economiques founded under the auspices of the *Comité des Forges*. In 1922 he was press officer of the French delegation to the Genoa conference and in 1923 adviser with the French occupation forces in the Ruhr. Entering politics as a moderate Republican, he was elected deputy of Paris in 1924 and again in 1928. He was under secretary of state for fine arts (1928), for foreign affairs (1930) and in the prime minister's office in the Pierre Laval cabinet (Feb. 1931). He was ambassador to Germany, 1931-38, and then to Italy. In June 1940 he returned to France and on Jan. 24, 1941, was appointed a member of the National council. In 1942 he was controller general of the press at Vichy but in June 1943, at Grenoble, he was arrested by the Gestapo and interned in the Austrian Tyrol until liberated by French troops in May 1945. For three years he directed and wrote on foreign policy in *Figaro*. On Nov. 15, 1948, he was appointed envoy extraordinary at General J. M. P. Koenig's headquarters at Baden-Baden, and on May 19, 1949, French high commissioner in Western Germany; he assumed his duties on Aug. 19. In 1920 he married Mlle. Jacquline Dillais, and there were five children of the marriage.

FRANCO Y BAHAMONDE, FRANCISCO, Spanish army officer and statesman (b. El Ferreol, Galicia, Dec. 4, 1892), leader (*Caudillo*) of the empire, chief of state, commander in chief of the armed forces, prime minister and head of the Falange Española Tradicionalista y de las Juntas de Ofensiva Nacional Syndicalistas. (For his early career see *Encyclopædia Britannica* and *Britannica Book of the Year 1949.*)

In a speech before the Cortes, on May 18, he accused Great Britain of failure to keep promises made to Spain during the war, quoting Winston Churchill as having said in 1941 to the Duke of Alba, then Spanish ambassador in London, that if England won the war she would help Spain to become a strong power in the Mediterranean and support her territorial aspirations in North Africa. (Ernest Bevin declared in the House of Commons on June 22 that there was no record in the Foreign Office archives justifying such a claim and Anthony Eden said that no such commitment was ever made). On Oct. 22 he arrived aboard the cruiser " Miguel de Cervantes " at Lisbon for a state visit. A reception at the quayside by Marshal A. O. de Fragoso Carmona, president of the Portuguese republic, and Dr. A. de Oliveira Salazar, the prime minister, was followed by a military parade. The visit reciprocated President Carmona's to Spain in 1929, and was the *Caudillo's* first trip abroad since 1941. He returned to Madrid by air on Oct. 27.

FRASER, PETER. New Zealand statesman (b. Fearn, Scotland, 1884), became prime minister on April 1, 1940, in succession to M. J. Savage. (For his early career see *Britannica Book of the Year 1949.*)

In Oct. 1948 he led the New Zealand representatives at the Commonwealth prime ministers' conference in London, and later visited Scotland, Canada and the United States returning to New Zealand in Jan. 1949. He again visited England in April 1949 for a further meeting of the Commonwealth prime ministers. Accompanied by Joseph Chifley (*q.v.*), prime minister of Australia, he attended Anzac day celebrations in London on April 25. He returned to New Zealand in May. In the general election on Nov. 30, the Labour party lost eight seats to the National party thus leaving the government in a minority. On Dec. 7 he handed the resignations of himself and members of the cabinet to the governor general, Sir Bernard Freyberg, and on Dec. 13 was succeeded as prime minister by S. G. Holland (*q.v.*).

FREDERIK IX (CHRISTIAN - FREDERIK - FRANZ - MICHAEL - KARL - WALDEMAR - GEORG), King of Denmark (b. Castle Sorgenfri near Lyngby, March 11, 1899), succeeded to the throne on April 20, 1947. (For his early life *see Britannica Book of the Year 1949.*)

On March 11, 1949, the king celebrated his 50th birthday, which was unmarked by any official ceremony, though, appearing with Queen Ingrid on the balcony of Amalienborg palace, he thanked for their loyalty a crowd of some 50,000 who had assembled to greet him on the anniversary. On July 20 the king and queen left Copenhagen in the royal yacht " Dannebrog " for a visit to the Faeroe Islands (*q.v.*). On Nov. 27 the king and queen arrived in London on a short private visit. They spent a night as the guests of King George VI and Queen Elizabeth at Windsor castle. On Nov. 30 they were present at a luncheon at the Danish embassy and among the guests were Winston Churchill and Clement Attlee.

FREEMASONRY. The grand festival of the United Grand Lodge of England was held on April 27, 1949. The Duke of Devonshire was proclaimed on his re-election as grand master and he re-appointed Lord Scarborough deputy grand master and Brigadier General W. H. V. Darell assistant grand master.

At its quarterly communication in September, the Antient Free and Accepted Masons of the Grand Lodge of England re-affirmed the principles of the craft. It was felt that if freemasonry deviated from its course by expressing an opinion on political or theological questions it would create discord among its members. At the same meeting it was agreed to increase quarterage dues and registration fees as from Jan. 1, 1949. It was estimated that the increase quarterage payments would provide an additional £20,000. Warrants were granted for over 100 new lodges, bringing the total of lodges on the register to over 6,200.

The 350th anniversary of the earliest minute of the Lodge of Edinburgh (Mary's Chapel) No. 1 was commemorated in July. The King sent a letter congratulating the Lodge. The oldest lodge in Norway celebrated its bi-centenary.

Nearly 600 Freemasons from the western zones met in Frankfurt, Germany, on June 19 and decided to establish a central Grand Lodge, thus reviving the craft on a national scale for the first time since it was banned in 1933. (X.)

FRENCH COLONIAL EMPIRE: *see* FRENCH UNION.

FRENCH LITERATURE. During 1949 many French writers whose participation in postwar public affairs had seemed a logical continuation of their wartime activities lost some of their illusions as to a writer's responsibility. The non-Communist leftist political party founded in 1948 by Jean-Paul Sartre and David Rousset disbanded as a result of internal disputes; it was rumoured that André Malraux was considering abandoning his position as chief of information to General Charles de Gaulle; even certain communists and their sympathizers—Edith Thomas, Jean Cassou, Jean Bruller (Vercors), Pierre Emmanuel—publicly announced their break with party ethics. Regimentation, even organization, of the critical, realistic and frequently exasperated French intellect seemed more difficult to accomplish than at any time since before 1940.

Commenting on the Balzac centenary celebrations an older critic expressed the hope that after re-reading *La Comédie humaine*, French novelists would return to observation of their time rather than continue " to wrack their brains over insoluble metaphysical problems." Some critics were possibly unaware that certain writers had already exchanged these problems for those closer to their own *métier*.

Whatever may have been the nature of their extra-literary preoccupations—whether sociological, philosophical, political or all three—it was evident in 1949, despite the apparent confusion of the French literary scene, that only those who, in addition to having participated in these probings, were also aware of the expanding frontiers of consciousness and of the consequent need for new language techniques, had succeeded in emerging above the level of merely competent writing—memoirs, *reportages*, fictionized current events, etc. —that flooded the bookshops as a result of the introduction of high-powered merchandising methods into the French publishing world where, until recently, the goal was prestige rather than large profits. It is in fact, probably no exaggeration to say that, because of the latter factor in particular, much of the most original writing of the year remained almost clandestine in its influence. In any case, the increasing number of commercially inspired literary awards (more than 100 were distributed) brought out no important new talents and only served to weaken the significance of the awards that existed.

Here such classically written works as Jean-Paul Sartre's *La Mort dans l'âme* (third and most interesting volume of *Les Chemins de la liberté*), or *Les Communistes* by Louis

Aragon (*q.v.*), received wide notice, as did the two prize-winning novels· Robert Merle's *Week-end à Zuydercoote* (Prix Goncourt), a Hemingway-like story set against the background of the battle of Dunkirk, and Louis Guilloux's 800-page chronicle of life in a small Breton town, *Jeu de patience* (Prix Théophraste Renaudot). It was, nevertheless, in the more experimental works of such less advertised writers as Marcel Bisiaux, *Les Pas contés*, Noël Devaulx, *Compère, vous mentez*, André Dhôtel, *David*, Pierre Gascar, *Les Meubles*, Nathalie Sarraute, *Portrait d'un inconnu*, C. A. Cingria, *Bois sec, bois vert*, that the gradual evolution of the French novel away from the event and obligation, toward a new reality that was neither surrealist nor existentialist could be seen.

This tendency toward a new, more concrete, realism was also to be seen among the poets, whose work was more concerned with " things " than with abstract ideas or with the different *mystiques* that had haunted the immediate postwar years. *Proème*, by Francis Ponge, *Fête des arbres et du chasseur*, by René Char, *La Vie dans les plis*, by Henri Michaux, were, each in their way, representative of this tendency. *Contre-terre*, by a younger poet, René de Solier, also revealed this direction. The extraordinary popularity of another realist, Jacques Prévert, whose satirical, tender, easily accessible poems were being quoted like song hits by an entire generation of young people, was confirmed by the enthusiastic reception of new popular editions of his *Paroles* and *Histoires*, first published in 1946. Critics noted that this was the first time since Victor Hugo that a poet could be said to have penetrated to this extent beyond the literary world. The cinema, for which Prévert had written frequently, had done much to make this popularity possible.

Other events in the year's poetic activities were the publication of two volumes by Paul Eluard, *Corps mémorable* and *Une Leçon de morale*, as also of a collection of Philippe Soupault's later poems under the title *Chansons*, and a volume of the collected poems of André Breton. Here it should be recalled that when the critics, Pascal Pia, Maurice Saillet and Maurice Nadeau presented as a supposedly authentic unpublished poem by Arthur Rimbaud, a pastiche entitled *La Chasse spirituelle* (an affair that caused some stir in Paris literary circles), it was Breton who immediately launched one of his most penetrating defences of the true poet in a little volume of accusation entitled *Flagrant délit*.

During the early theatrical season, a number of established playwrights remained silent, or, as in the case of Henri de Montherlant's *Demain il fera jour*, Jean Anouilh's cynical comedy, *Ardèle ou la Marguerite*, and Henri Bernstein's *La Soif*, presented plays that added little to their reputation. Two plays of value that marked the first months of the year were that of the Catholic existentialist, Gabriel Marcel, *Un homme de dieu*, a probing analysis of religious motives, and Jean Genêt's desolate if brilliantly written play of crime and punishment, *Haute surveillance*. *Le Roi pécheur*, a modern poetic version of the Grail legend, by a newcomer to the dramatic field, Julien Gracq, obtained a critical *succès d'estime*, as did the poet Georges Audiberti's *La Fête noire*, for its lyrical satire and verbal richness.

The sensations of the autumn season were Roger Vailland's *Abélard and Héloise*, and Michel Ghelderode's *Fastes d'enfer*, the former aggressively, intellectually anti-clerical and the latter blasphemous and obscene. There was a cry of scandal, but both playwrights held the stage for several months. A French adaptation by Jean Cocteau of Tennessee Williams' *A Streetcar Named Desire* aroused considerable interest.

As usual in France, there appeared a large number of excellent critical essays that varied in subject from the sexual emancipation of women (*Le Deuxième sexe*, by Simone de Beauvoir), or a plan for social, spiritual and political re-organization of France (*L'Enracinement*, by Simone Weil) to the more intellectualized æsthetic and philosophical considerations of literature and art by Maurice Blanchot, *La Part du feu* and *Lautréamont et Sade*, Maurice Merleau-Ponty, *Sens et non-sens*, or Francis Ponge, *Essais critiques*. Jean Paulhan's resuscitation of the penetrating critical works of Félix Fénéon was an event of interest, as was the analysis of Debussy, *Debussy et le mystère* by Vladimir Jankélévitch.

In the field of pure philosophy 1949 saw the publication of two volumes of lectures delivered before Jean Wahl's Collège Philosophique (founded in 1946), as well as an important book by Gaston Bachelard, *Le Rationalisme appliqué*, which completed the vast work of this original thinker. Continued interest in the philosophy of existence was evidenced by such titles as *De l'essence de la vérité*, a translation from the German of Martin Heidegger; *Le Vrai visage de Kierkegaard*, by Pierre Mesnard; *Gabriel Marcel et Karl Jaspers*, by Paul Ricoeur. Sociology, science and political economy were represented by the important volume, *La Structure elémentaire de la parenté*, by the ethnologist, Claude Lévy-Strauss; *Le Mythe de l'eternel retour*, by Mircea Eliade; *Loki*, by Georges Dumézil; *La Part maudite*, by the curiously universal Georges Bataille; *La Science et l'espérance*, posthumous notes of Jean Perrin (awarded the 1926 Nobel prize in Physics), and *Principes du fédéralisme*, by Robert Aron.

Among the 20 or so literary reviews, *Cahiers du sud*, *Esprit*, *Paru*, *La Table ronde*, *84*, *L'Age nouveau*, *Mercure de France*, *Les Cahiers de la Pléiade*, *Psyché*, *Présence Africaine*, *Contrepoints* and *Dieu vivant* may be said to have been the most representative. A new review, *Empédocle*, made its appearance, and the disappearance of Georges Bataille's excellent *Critique* was generally deplored. Four weekly newspapers: *Les Lettres françaises*, *Les Nouvelles littéraires*, *Le Figaro littéraire*, *La Gazette des lettres* and one daily, *Combat*, supplied well-informed news and criticism of literary activities. (*See* also LITERARY PRIZES.) (M. JOL.)

FRENCH UNION. With the establishment, by the constitution of 1946, of the French Union, in which are comprised both the mother country and the former empire, the old colonial terminology was abolished and for the colonies were substituted four categories of overseas regions. The older, completely assimilated colonies claimed recognition as French *départements* administered as in the mother country; the others became overseas territories (*territoires d'outre-mer*) which henceforward would elect representatives to parliament and would have their own local assemblies possessed of wide powers; the trust territories, to be known in future as *associated territories*, were similar in structure to the overseas territories and had the same electoral privileges; lastly, there were the former protectorates, now styled *associated states* which could belong to the union only by an act of voluntary accession.

Two of the three central instruments of government already in operation were (1) the presidency of the French Union, exercised, after the passing of the constitution, by the president of the republic *ex officio*, and (2) the Assembly of the French Union, of which 75 members represented metropolitan France (50 chosen by the National Assembly and 25 by the Council of the Republic) and 75 members were elected by the assemblies of the overseas countries, and which had been sitting in a consultative capacity since Dec. 1947. By an act of April 24, 1949, the High Council of the French Union was set up, the function of which was to help the government with the general administration of the union and act in an advisory capacity. It included a delegation from the French government consisting of the chief ministers and representatives of the associated states, under the chairmanship of the president of the union. In

Country	Area (sq mi)	Population*	Capital	Status	Rulers and Governors
AFRICA					
Algeria	851,078	8,676,000	Algiers	Group of three departements	Governor General, Marcel Edmond Naegelen
Morocco	153,870	8,617,400†	Rabat	Protectorate	Sultan, Mohammed ben Yussef III Resident General, Gen Alphonse Juin
Tunisia	48,300	3,230,952‡	Tunis	Protectorate	Bey, Mohammed el-Amin Resident General, Jean Mons
French West Africa	1,889,000	16,375 000	Dakar	Group of territories	High Commissioner, Gov Gen., Paul Bechard
Mauritania	450,000	524,000	Saint-Louis	Overseas territory	Governor, Edmond Terrac
Senegal	81,000	1,994,000	Saint-Louis	Overseas territory	Governor, Laurent Wiltord
Sudan	461,000	3,137,000	Bamako	Overseas territory	Governor, Edmond Louveau
Haute Volta	122,000	3,044,000	Ouagadougou	Overseas territory	Governor, Albert Maurages
Ivory Coast	130,000	2,031,000	Abidjan	Overseas territory	Governor, Laurent Pechoux
French Guinea	108,000	2,130,000	Conakry	Overseas territory	Governor, Roland Pre
Niger	493,000	2,041,000	Niamey	Overseas territory	Governor, Jean Toby
Dahomey	44,000	1,474,000	Porto Novo	Overseas territory	Governor, Claude Valluy
Togoland	22,463	944,500†	Lome	Trust territory	Commissioner, Jean Cedile
Cameroun	169,436	2,902,400	Yaounde	Trust territory	High Commissioner, Jean Soucadoux
French Equatorial Africa	959,983	4,130,939‡	Brazzaville	Group of territories	High Commissioner, Governor General, Bernard Cornut-Gentille
Gabon	91,405	422,904	Libreville	Overseas territory	Governor, Pierre Pelieu
Ubangui Shari	238,008	1,065,390	Bangui	Overseas territory	Governor, Auguste Even
Middle Congo	175,630	631,151	Brazzaville	Overseas territory	Governor, Jacques Fourneau
Chad	454,940	2,011,494	Fort Lamy	Overseas territory	Governor, Marie-Jacques Rogué
French Somaliland	9,071	42,780‡	Jibuti	Overseas territory	Governor, Paul Siriex
Madagascar and dependencies	229,438	4,107,054†	Antananarivo	Overseas territory	High Commissioner, Gov. Gen., Robert Bargues
Comoro, Mayotte and Nossi-Bé Islands	650	141,754	Dzaoudzi (Mayotte)	Dependency	Ruler, Prince Said Hussein Administrator, Alain-Louis Alaniou
Reunion	970	250,000	Saint-Denis	Overseas département	Prefect, Paul Demange
AMERICA					
Saint-Pierre and Miquelon	93	4,354‡	Saint-Pierre	Overseas territory	Administrator, Jean-René Moisset
French Guiana (incl Inini)	34,740	33,561‡	Cayenne	Overseas departement	Prefect, Robert Vignon
Guadeloupe	686	278,464‡	Basse-Terre	Overseas département	Prefect, Maurice Philipson
Martinique	427	261,595‡	Fort-de-France	Overseas département	Prefect, Pierre Trouillé
ASIA					
French India	194	286,000	Pondicherry	Overseas territory	Commissioner, Jean Chambon
State of Vietnam	126,608	21,731 000	Saigon	Associated State	Ruler, Bao Dai High Commissioner, Léon Pignon
Bac-Ky (former Tongking)	44,660	9,920,000‖	Hanoi	Province	Governor N'Guyen Huu Tri Commissioner, Gen Marcel J M Alessandri
Trung-Ky (former Annam)	56,974	6,750,000‖	Hue	Province	Governor, Phan Van Giao Commissioner, Gen Henri A. Lorillot
Nam-Ky (former Cochin-China)	24,974	5,625,000	Saigon	Province	Governor, Tran Van Huu Commissioner, Gen Charles M F Chanson
Cambodia	69,886	3,046,432§	Pnom-Penh	Associated State	King, Norodom Sihanouk Commissioner, Jean de Raymond
Laos	89,320	1,500,000	Vientiane	Associated State	King, Sisavang Vong Commissioner, Miguel de Pereira
OCEANIA					
New Caledonia and dependencies	7,654	61,500†	Noumea	Overseas territory	General Commissioner for the Pacific Islands, Pierre Cournarie
New Hebrides	5,700	47,301†	Vila	Franco-British Condominium	High Commissioners, Pierre Cournarie and Sir Leslie Freeston
French Pacific Islands	1,545	55,734‡	Papeete	Overseas territory	Governor, Armand Anziani

* 1948 estimates if not otherwise stated † 1947 est ‡ 1946 census ‖ 1943 est § 1936 census.

some respects reminiscent of the Imperial Commonwealth conference, the High Council could become the nucleus of a federal government. Its inception was not unattended by difficulty owing to uncertainty as to the scope of its powers and to the abstention of Morocco and Tunisia whose rulers had protested against a statement by the minister of overseas France in which he had included these countries in the French Union; by the end of the year, therefore, the High Council had still not been summoned.

Total area of the overseas territories of the French Union: approximately 4,671,112 sq. mi. Total pop. (1948 est.): 77,287,000. Certain essential information on the component parts of the French Union is given in the table.

Algeria. The cantonal elections held on March 20-27 confirmed the swing to the right in the first electoral college (Europeans and *évolués* or developed Moslems) and the success of the "independent" supporters of the government in the second college (Moslems only). Four seats were lost by the Communists and six out of eight by the U.D.M.A. (Union Démocratique du Manifeste Algérien), which, led by Ferhat Abbas, stood for a republic of Algeria. The Nationalist M.T.L.D. (Mouvement pour le Triomphe des Libertés Démocratiques, led by Messali Haj), which attributed its defeat to administrative pressure, expressed itself with accumulated violence in the press and at public meetings. In the course of a triumphal tour in May and June, Vincent Auriol (*q.v.*), president of the republic, was scathing in his references to the separatists. On the whole, however, conditions were quiet. In accordance with its constitution the Algerian Assembly elected as its president a Moslem, Salah Abdelkader, who proclaimed his unfailing affection for France. A resolution of the Assembly establishing a system of social security for the non-agricultural workers was put into force by a decree of June 10. On the occasion of the centenary of the death of Marshal Bugeaud, conqueror of Algeria, the government erected a monument to the memory of his gallant and honourable foe, the Emir Abd-el-Kader. The three Algerian *departements* were included in the Franco-Italian customs union under the treaty signed in Paris on March 26

Population (Oct 31, 1948 est) Europeans 960,000 (11·2% of the total). Chief towns: Algiers (cap, 315,210); Oran (256,661); Constantine (118,774).

Mineral Production (1948, metric tons) Phosphate rock 670,000; coal 225,800; iron ore 1,871,500; zinc ore 13,771

Agriculture Main crops (1948, metric tons). wheat 906,980; barley 742,270; oats 117,227; potatoes 164,090; tobacco 21,068; dried figs,

38,667, dates 11,516; citrus fruits 131,081; wine (hl.) 12,653,290. Livestock (mid-1948): cattle 968,628; sheep 3,105,121; goats 2.240,277; pigs 142,018; horses 204,790; asses 282,299; mules 229,374; camels 251,979.

Foreign Trade (1948, Fr million) Imports 91,400·4; exports 75,350 5.

Transport and Communications. Railways (1947): 4 338 km. Metalled roads (1947): northern Algeria 52,519 km , southern Algeria 282 km.; non-metalled roads 15,046; tracks 20,575 km. Motor vehicles licensed (Jan. 1948): cars 26,165, coaches 1,003, taxis 1,387, lorries 19,895. Telephone subscribers (March 1949): 56,000.

Ships entered (1948): Algiers 2,834; Oran 2,180; Bône 1,272; cargo unloaded (metric tons) 3,037,600; loaded 5,385,600. Air transport (1948): aircraft landed 11,310, passengers carried. arrivals 103,200, departures 127,200; freight carried (metric tons) 21,076; mail 933·6.

Finance. (Fr. million) Budget: (1948 est) revenue 32,086·6, expenditure 32,039·6; (1949 est.) revenue 52,546, expenditure 52,524. Monetary unit: Algerian *franc*=metropolitan franc (MFr.). Exchange rate (from Sept. 19, 1949): £1=MFr. 980.

Morocco. The administrative system introduced by General Alphonse Juin, unfavourable to the Nationalist Istiqlal (Independence) party led by Si Allal el-Fassi and Ahmed Balafredj, appealed to the French settlers in Morocco who re-affirmed their confidence in Juin for ensuring the stability of prices and internal peace. On the other hand, the opposition of Sultan Mohammed ben Yussef III (*q.v.*) seemed unremitting. In reply to a communiqué from the resident general on May 31, declaring that the Treaty of Fez of March 30, 1912, was the only instrument regulating relations between the French and the Moroccans, he caused a statement to be issued through the intermediary of the Council of Vizirs to the effect that " Morocco did not cease to enjoy a position and a sovereignty defined by international treaties." His son, Prince Mulay Hassan, paid an official visit to France in July and August. There were no signs of trouble in Morocco during the year. The censorship which was imposed under the martial law banned all opposition attacks in the press.

At the end of December a serious conflict between the resident general and the sultan was made public. Mohammed ben Yussef was opposed to the organization of trade unions in Morocco if the rights of Moroccan workers, including the right of election to executive bodies, were limited.

In an agreement signed on Dec. 30 the United States accepted for an indefinite period the prohibition of free imports into the protectorate, which had been imposed by France on Dec. 31, 1948. By admitting certain exceptions to the regulation the agreement gave practical satisfaction to the U.S. without diminishing France's self-respect. The Istiqlal party protested against the fact that Morocco did not take part in the negotiations and demanded that the country should be free to regulate its foreign trade.

Population. (Jan. 1, 1949 est) French 287,000 (3 5% of the total), Jews 200,000; foreigners 63,000. Chief towns (pop , March 1947): Rabat (cap., 161,416); Casablanca (551,322); Marrakesh (238,237); Fez (200,946); Meknès (159,811).

Mineral Production. (1948, metric tons) Phosphate rock 3,149,000; anthracite 290,200, iron ore 301,300; manganese 195,400; lead 39,200; petroleum 12,900.

Industry. (1948) Main products: cement 262,200 metric tons; rugs 71,400 sq. m.; tinned sardines 950,000 boxes.

Agriculture. Main crops (1948 metric tons)· wheat 680,000; barley 1,431,000; oats 46.400; maize 445,900; sorghum 37,300, linseed 32,000; wine (hl.) 364 000 Livestock (1948): cattle 1,449 000, sheep 8,474,000, goats 6,009,000, pigs 97,000; horses 155,000; asses 555,000; mules 141,000; camels 165,000.

Foreign Trade. (1948, Fr million) Imports 74,865; exports 37,188.

Transport and Communications Roads (1948) 9,181 km.; tracks 32,000 km Motor vehicles licensed (Dec. 1948)· cars 24,470; commercial vehicles 19,956 Telephone subscribers (May 1949): 29,500. Ships entered (1948): Casablanca 4,602; Safi 756. Transport aircraft landed (1948)· 6,673; passengers carried. arrivals 54,857, departures 56,041; freight carried (metric tons) 6,031; mail 4,422.

Finance. (Fr. million) Budget (1949 est.): balanced at 25,574. Monetary unit: Moroccan *franc*=MFr.

Tunisia. By the death on Sept. 5, 1948, at Pau, of Bey Mohammed Moncef, deported by the French in 1943 but regarded by the Tunisians as their legitimate ruler, public opinion was rallied to the reigning bey, Mohammed el-Amin and one of the most acute causes of Franco-Tunisian disagreement was removed. But the Nationalist opposition was reinforced on Sept. 8 by the return from Cairo of Habib Bourguiba, chairman of the Tunisian Destour (Constitutional) party to whom the bey accorded a cordial welcome. However, no serious unrest occurred. The resident general, Jean Mons, exerted himself to arrange for the sale on the French market of 3,000 metric tons of Tunisian oil in spite of the opposition of producers in metropolitan France.

Population. (1946 census) French 143,977 (4 5% of the total); foreigners (mainly Italians) 95,572; Jews 71,543. Chief towns· Tunis (cap., 364,593); Sfax (54,637); Bizerta (39,327); Sousse (36,566).

Mineral Production. (1948, metric tons) Phosphate rock 1,864,000; iron ore 696,000; lignite 71,000; lead ore 21,600.

Agriculture. Main crops (1948, metric tons): wheat 252,400; barley 100,000; olive oil 26,000; dates 46,000; citrus fruits 21,300; wine (hl.) 726,000. Livestock (1948): cattle 341,000; sheep 1,588,000; goats 1,083,000; pigs 42,000, horses 72,000; asses 109,000; mules 47,000; camels 177,000.

Foreign Trade. (1948, Fr. million) Imports 33,826; exports 12,675.

Transport and Communications. Roads (Jan. 1949). 8,704 km. Railways: 2,174 km. Motor vehicles licensed (March 31, 1949): cars 11,062; commercial 6,465. Telephone subscribers (June 1949): 22,832. Ships entered in Tunisian ports (Tunis, Bizerta, Sousse and Sfax, 1948): 2,028; cargo unloaded (metric tons) 1,028,000, loaded 3,115,000. Transport aircraft landed (1948): 6,972; passengers flown: arrivals 30,209, departures 30,730; freight carried (metric tons) 3,577.

Finance. (Fr. million) Budget· (1948 est) balanced at 12,174; (1949 est) balanced at 16,343. Monetary unit. Tunisian *franc*=MFr.

French West Africa. Paul Béchard, the high commissioner of the republic for West Africa, was entrusted on Jan. 5 with putting into operation the military defence of West Africa, Togoland, Cameroun and Equatorial Africa. The Natives' Nationalist party, the R.D.A. (Rassemblement Démocratique Africain), offshoot of the Communist party, continued its agitation, but its influence was clearly declining, to the advantage of the local parties, even on the Ivory Coast where it had most solidly established itself.

Population. (1948 est) Europeans 54,560 (0·34% of the total). Chief towns. Dakar (185,000), Saint-Louis (62,900), Bamako (60,100); Abidjan (56,000); Conakry (38,000); Porto Novo (31,000).

Mineral Production. (1948) Gold 659 9 kg ; diamonds 77,970 carats; ilmenite 3,690 metric tons; zircons 191 metric tons.

Agriculture. Main crops (1948, metric tons)· groundnuts 600,000; cotton 4,500, palm kernels 63,093; palm oil 35,688, bananas (export) 48,356 Livestock (1948) cattle 6,060,000, sheep and goats 18,016,400; horses 186,450; asses 561,700; camels 284,000.

Foreign Trade. (1948, Fr.C F A.million) Imports 19,841; exports 18,471.

Transport and Communications. (1948) Roads 75,800 km. Railways: 3,726 km. Motor vehicles licensed cars 3,504; commercial 9,981. Telephone subscribers 5,665. Ships entered (all ports, but mainly Dakar, Conakry, Abidjan and Porto Novo) 2,789; cargo unloaded (metric tons), 1,470,000, loaded 1,184,000. Transport aircraft landed· 2,997; passengers flown: arrivals 16,605, departures 15,629; freight carried (metric tons) 2,524; mail 274.

Finance. Budget (1948 est) balanced at Fr. C.F A 13,347 million. Monetary unit: *franc* C F A. (*Colonies Françaises d'Afrique*)=MFr.2.

Togoland. According to the Dec. 31, 1948, estimates there were in this trust territory 841 Europeans. Capital: Lomé (pop., 30,063).

Agriculture. Main crops (1948, metric tons)· tapioca (export) 12,009; palm kernels 7,677, palm oil 1,098; cotton 5,707; copra 2,093; groundnuts 2,560; cocoa (export) 2,955; coffee 1,712. Livestock (1948): cattle 83,712; sheep 259,938; goats 191,448; pigs 169,539; horses 1,867; asses 2,941.

Foreign Trade. (1948, Fr.C F.A. million) Imports, 824·2; exports 1,168 4.

Transport and Communications. (1948) Roads: 3,275 km Railways: 449 km. Ships entered at Lome. 158; cargo unloaded (metric tons) 23,346; loaded 39,314.

Finance. Budget (1949 est.) balanced at Fr C F.A 591,350,000.

Cameroun. According to the Jan. 1, 1949, estimates there were in this trust territory 6,513 Europeans. Capital: Yaoundé (pop. [1946 est.], 50,000).

Mineral Production (1948) Titanium ore (95% content of TiO_2) 576 metric tons; tin 145 metric tons; gold 333 kg.

Agriculture. Main crops (1948, metric tons): millet 368,000; cassava (manioc) 327,000; maize 72,395; bananas 302,558; cocoa 43 000; coffee 5,700; palm kernels 32,000; palm oil 35,000; tobacco 270.

Foreign Trade. (1948, Fr C.F.A. million) Imports 4,888; exports 4,285.
Transport and Communications. (1948) Roads: 10,606 km. Railways: 505 km. Telephone subscribers: 480 Ships entered at Duala: 385; cargo unloaded (metric tons) 186,300; loaded 163,300
Finance. Budget (1949 est.) balanced at Fr.C.F.A. 2,452·3 million.

French Equatorial Africa. According to the Jan. 1, 1948, estimates there were only 13,320 Europeans, including 9,900 French, in all four territories of French Equatorial Africa. Chief towns: Brazzaville (cap., pop. [July 1949 est.], 83,579, including 4,353 Europeans); Bangui (41,044); Fort Lamy (18,276); Libreville (12,600).

Mineral Production. (1948) Gold 1,982 kg.,; diamonds 118,000 carats; lead ore 5,006 metric tons.
Agriculture. Main crops (1948, metric tons, export only): cotton 32,276; palm kernels 7,563; palm oil 2,389; coffee 2,415; cocoa 2,041; rubber 325; mahogany 34,360; okoumé (light mahogany) 172,632.
Foreign Trade. (1948, Fr.C.F.A. million) Imports 6,010; exports 6,177.
Transport and Communications. (1948) Roads. 22,170 km. Railways: 512 km. Motor vehicles licensed: cars 640, commercial 2,600 Telephone subscribers 950. Cargo, unloaded mainly at Pointe Noire and Libreville (metric tons): 236,700; loaded 314,800
Finance. Budget (1949 est.) balanced at Fr.C.F.A. 2,688 5 million.

French Somaliland. From Jan. 1 the status of Somaliland was raised to that of a free territory. A new currency, the Jibuti franc, freely convertible into U.S. dollars, was instituted on March 20. The 1946 constitution, which in practice reserved the right to vote to the *évolués*, had the effect of giving a majority to the inhabitants of mixed origin, to the detriment of native Danakils and Issa Somalis. The consequence was an outbreak of disturbances culminating in riots and violence: 38 people were killed and 154 wounded at Jibuti on Aug. 29.

Population. (1948 est.) Europeans 2,500, including 1,750 French. Capital: Jibuti (pop., 22,000)
Foreign Trade. (1948, Fr C.F.A. million) Imports 1,777·4; exports 1,018 2.
Transport and Communications. (1948) Roads: 25 km. Railway: 98 km. Motor vehicles licensed cars 169, commercial 210. Telephone subscribers: 296. Ships entered at Jibuti 1,357; cargo unloaded (metric tons) 240,775; loaded 166,557. The volume of traffic is explained by the fact that Jibuti was the main port serving Ethiopia.
Finance. Budget (1949 est.) balanced at Fr C.F.A. 403,274,000. Exchange rate. $1=Jibuti Fr. 214·39.

Madagascar. The Supreme Court of Appeal in Paris, on July 7, rejected the petition submitted on the ground of irregularities by the eight prisoners convicted on Oct. 4, 1948, by the court at Antananarivo, but the president of the republic immediately commuted the death sentences to deportation for life. Two deputies to the National Assembly, Ravoahangy and Raseta, were among the condemned. The reprieved Malagasy leaders of the armed revolt of March 1947 were transferred to the Comoro islands pending their removal to Belle-Île off the south coast of Brittany, as had been ordered by the government on Aug. 2, 1949, but which so far had not been effected. From efforts made to secure a revision of the case it became more and more clear that the accused had not had the benefit of their constitutional rights. After an inquiry by a commission sent by the Assembly of the French Union, the latter, on June 10, requested the government to take steps to remedy the situation which in its political, economic and social aspects alike gave cause for anxiety. On Jan. 26 an agreement was signed between the Paris and Washington governments for the export of 19,800 tons of graphite to the United States.

Population. (1947 est.) Europeans 60,498, including 40,887 French. Chief towns: Antananarivo or Tananarive (cap., pop. 165,477, including 17 402 French and 2,780 foreigners); Tamatava (29,776); Majunga (26,271); Diego-Suarez (21,677).
Mineral Production. (1948, metric tons) Graphite 14,228; corundum 4,330; mica 507; kaolin 40·6. Precious stones (kg.): garnets 133,004; beryls 9,082; agates and chalcedonies 4,030.
Agriculture. Main crops (1948, metric tons): rice 744,323; cassava 737,462; sweet potatoes and taros 201,602; potatoes 90,035; maize 68,483; sugar cane 293,400; coffee 23,898; vanilla 461
Foreign Trade. (1948, Fr.C.F.A. million) Imports 8,941·9; exports 6,121·5.
Transport and Communications. (1948) Roads: 26,618 km. Railways: 859 km. Motor vehicles licensed: cars 6,087, commercial 3,990. Telephone subscribers. 4,616. Cargo unloaded (metric tons): 439,800; loaded 244,900.
Finance. Budget (1949 est.) balanced at Fr C.F.A. 2,646,147,000

Réunion. In 1946 only 2·67% of the total population, that is 6,698, were described as of French origin, although 97% were French. Chief towns (pop., 1946 census): Saint-Denis (cap., 36,096); Saint-Louis (23,936); Saint-Paul (25,959); Saint-Pierre (22,379).

Agriculture Main products (1948) sugar 67,664 metric tons (1949 est., 110,000 metric tons); rum 86,730 hl., vanilla 53,000 kg.
Foreign Trade. (1948, Fr C.F.A. million) Imports 2,873·5; exports 2,248·4
Transport and Communications. (1948) Roads: 790 km. Railways: 126 km. Motor vehicles licensed; cars 2,519, commercial 1,090. Telephone subscribers: 1,950. Cargo unloaded (metric tons) 129.696; loaded 98,631.
Finance. Budget (1948 est.) balanced at Fr C.F.A 266,558,696.

Saint-Pierre and Miquelon. Each of the two islands is a *commune*. Capital: Saint-Pierre (pop. [1946 census], 3,636).

Foreign Trade (1948, Fr.C.F.A. million) Imports 226·4; exports 246·5. Main exports salt and fresh cod, seal skins and silver fox skins. Ships entered. 566; cargo unloaded (metric tons): 32,700; loaded 5,060.
Finance. Budget (1949 est.) balanced at Fr. C.F.A. 174·8 million.

French Guiana. Capital: Cayenne (pop., [1948 est.], 10,961).

Foreign Trade (1948, Fr. million) Imports 878, exports 154. Main exports: gold 330 kg., balata gum 884 metric tons, tulip-wood 9,700 kg Cargo unloaded (metric tons): 15,000; loaded 3,000.
Finance Budget (1946) balanced at M.Fr. 101·7 million.

Guadeloupe. Chief towns (pop., 1946 census): Basse-Terre (cap., 10,086); Pointe-à-Pitre (41,323).

Foreign Trade. (1948, Fr million) Imports 5,415; exports 3,835. Chief exports: rum (1947 production: 127 399 hl.), sugar (1947 production 35,132 metric tons), bananas (1946 production: 48,000 metric tons) and coffee (1946 production: 500 metric tons).
Finance Budget (1947) balanced at M.Fr. 1,049·3 million.

Martinique. Chief towns (pop., 1946 census): Fort-de-France (66,006); Lamentin (15,114); Sainte-Marie (13,276).

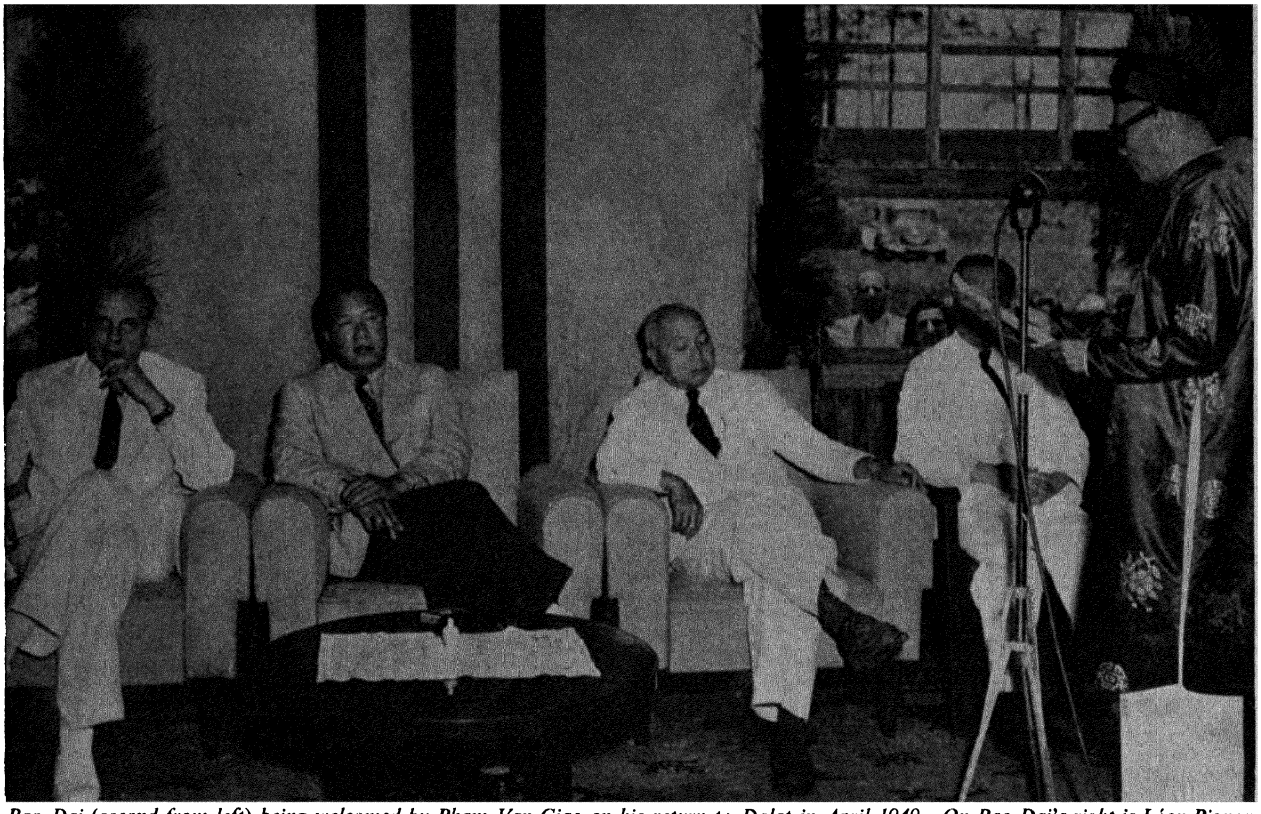
Foreign Trade. (1948, Fr. million) Imports 6,406·3; exports 4,692·6. Chief exports rum (1948 production: 194,026 hl.) and sugar (1948 production. 33,701 metric tons).
Finance. Budget (1949 est.) balanced at M.Fr. 988·3 million

French India. In the referendum held at Bengali-speaking Chandernagore on June 19, 7,473 votes were cast for incorporation in the Union of India and 114 against. Special provisions completely separated the city from other French settlements during the negotiations for its transfer. To comply with the expressed desire of the Tamil-speaking southern settlements (Pondicherry, Yanaon, Karikal and Mahé) for an autonomous system within the framework of the French Union, the French council of ministers on Sept. 28 passed a scheme of federation for the four free cities. The referendum to determine the choice between France and India which was to have been held on Dec. 11 was postponed A rigorous blockade imposed by the Indian government on the expiration of the Franco-Indian customs convention on April 1 affected particularly Pondicherry and Karikal. The transformation of the two cities into free ports greatly increased their traffic in 1949.

Population Of the four settlements the largest was Pondicherry; the population of the towns was estimated in 1948 as follows: Pondicherry (22,572); Karikal (70,541); Yanaon (5,853); Mahé (18,283).
Foreign Trade. (1948) Imports: 3,214 metric tons valued at M.Fr. 147 1 million; exports 1,594 metric tons valued at M.Fr. 633·9 million.
Finance. Budget (1949 est.) balanced at Rs. 7,673,120 Monetary unit: *rupee*. Exchange rate: (from Sept. 19, 1949): Rs. 1=M.Fr. 73·50.

Indo-China. With its political division into three associated states, Vietnam, Cambodia and Laos, forming part of the French Union, the name French Indo-China became of only historic significance.

On March 8 the difficult negotiations between the French government and the ex-emperor Bao Dai (*q.v.*) culminated in an agreement which guaranteed, within the framework of the French Union, the independence of Vietnam comprising the three Annamese-speaking *Ky*: Tongking or *Bac-Ky* (country of the north), Annam or *Trung-Ky* (country



Bao Dai (second from left) being welcomed by Pham Van Giao on his return to Dalat in April 1949. On Bao Dai's right is Léon Pignon, French high commissioner, and on his left, General N'Guyen Van Xuan.

of the middle) and Cochin-China or *Nam-Ky* (country of the south). Diplomatic representatives in Vietnam were to be accredited jointly to the president of the French Union and the head of Vietnam, their letters of credence being signed by the president of the French Union and initialled by the head of Vietnam; the latter was to have independent representation only in China, in Thailand and at the Vatican; the Vietnamese army would have French instructors; military and economic guarantees in favour of France were also stipulated in the agreement; Vietnam would have 19 representatives in the Assembly of the French Union.

By the promise of unity to Vietnam, Cochin-China was induced to exchange its status of overseas territory for that of a province of Vietnam, this being decided on April 23, by 55 votes to 6, with 2 abstentions, by a territorial assembly elected for the purpose on April 10. Ratifying this decision on June 3 by 367 votes to 221, the National Assembly thus brought to an end the colonial status of Cochin-China which dated back to 1862.

Bao Dai, assuming the title of prime minister, on June 30 formed the first Vietnamese government, with General N'Guyen Van Xuan, president of the provisional central government of Vietnam since May 1948, as deputy prime minister, minister of the interior and minister of war. By the end of the year the French parliament had not yet ratified the agreement of March 8 which had come into force on June 14 by an exchange of letters between Bao Dai and Léon Pignon, high commissioner of the republic. At a ceremony in Saigon on Dec. 30 the administrative and political powers were formally transferred to the Vietnamese government.

The return of the ex-emperor of Annam did not to any extent rally the non-Communist nationalists or even the Catholics. The economy of the country showed an increasing decline and in spite of definite successes in the French offensive which won from the Communist-controlled Vietminh the Catholic province of Phat Diem, to the southwest of Hanoi, Ho Chi Minh continued to control the mountainous region stretching from the Sino-Tongkinese frontier to the frontiers of Cochin-China and Cambodia. Guerrilla fighting kept things everywhere in a state of insecurity. The appointment on July 27 of Gen. M. Carpentier as commander in chief was interpreted as an intention to increase military pressure; but the approach of the Chinese Communist armies strengthened the spirit of resistance of Vietminh and threatened to create a new danger of international import. The French Left consequently showed signs of being anxious for a truce.

In Cambodia the fall of the Penn Nouth government on Jan. 21, following a financial scandal, brought about a crisis which was ended on Feb. 1 by the appointment to the premiership of Yem Sambaur, leader of the Democratic party which had provoked the emergency. The seriousness of the internal situation, due to the successes of the rebel Issaras, supported by Vietminh, and to the progress of the opposition which was taking the risk of compromising the Franco-Cambodian agreement, led King Norodom Sihanouk to dissolve the National Assembly on Sept. 18 and to postpone *sine die* the elections which, according to the constitution, were to have been held within two months. The king proceeded to Paris on Oct. 6 for the purpose of signing the treaty with France, but as the ministerial crisis persisted he was obliged to return on Oct. 26. The treaty was eventually signed by the prime minister, Sisovath Moniret, on Nov. 8. Cambodia sent five representatives to the Assembly of the French Union.

On account of a budgetary dispute between the government and the Assembly, the prime minister of Laos, Souvannarath, resigned on Jan. 2 and was replaced on Jan. 10 by Prince Boun Oum, leading personality of southern Laos. By a treaty signed in Paris on July 19 by President Vincent

Auriol and King Sisavang Vong, Laos was recognized as an independent associated state. This agreement led on Oct. 24 to the voluntary dissolution of the "free government of Laos," known as the Lao Issara government, headed by Phya Khammas at Bangkok. Laos sent three representatives to the Assembly of the French Union.

Population. (1946 est) Europeans 26,000, including 23,000 French and *assimilés*. Chief towns (pop, 1949 est.) Saigon with the seaport of Cholon (1,700,000), Hanoi (160,000, including 6,000 French and 7,000 Chinese); Haiphong (92,000, including 5,000 French and 30,000 Chinese); Pnom-Penh (128,950)

Agriculture. Main products (1948, metric tons): rice 4,210,000, sugar 15,785; rubber 43,901

Industry. Main products (1948, metric tons) coal 338,950, cement 180,500.

Foreign Trade. (1948, MFr million) Imports 40,087 7; exports 19,918

Transport and Communications. (1948) Roads: 20,370 km Railways 3,245 km. Motor vehicles licensed cars 15,500, commercial 7,500. Telephone subscribers. 5,400

Finance Budget (1949 est) balanced at Piastres 1,426 6 million. Monetary unit: *piastre* = MFr 17

New Caledonia. The population of Nouméa, the capital, was estimated in 1946 at 10,466 There were 18,700 Europeans in the island.

Foreign Trade. (1948, Fr C F P million) Imports 554, exports 328 Main exports: (metric tons): nickel ore 96,415, nickel (mattes) 6,300, chrome 75,021; gypsum 779, copra 1 569, coffee 920; hides 285

Finance Budget (1949 est) balanced at Fr C F P 274 5 million Monetary unit, franc C.F P (*Colonies Françaises du Pacifique*)—MFr 5 50

French Pacific Islands. This overseas territory comprises eight archipelagos, the most important being the Society islands, including Tahiti (area: 600 sq. mi.; pop [1946 est.], 24,820), with the town of Papeete (pop, 12,428).

Foreign Trade (1948, Fr C F P million) Imports 381·4, exports 405 5. Main exports (metric tons): phosphate rock 187,000, copra 18,439; vanilla 154

Finance Budget (1948 est) balanced at Fr C F P. 164 7 million

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FRIENDS, THE RELIGIOUS SOCIETY OF.

In London Yearly Meeting, including Friends in Australia and New Zealand and scattered members, the membership in 1948 was 21,888, an increase of 41. For Great Britain alone the increase was 26, on a total membership of 20,730 In Ireland there were 1,960 members, an increase of three over 1947. After serving for six years as clerk, *i.e.*, chairman of the society in Great Britain, Mrs W. Maude Brayshaw was succeeded by Redford Crosfield Harris

The proceedings at the 281st Yearly Meeting held in London in May indicated that the present emphasis in the life and thought of the society was that Quakerism was intrinsically Christian and that it was essential to the world today. The Yearly Meeting considered carefully the position of Friends' schools and their part in the developing national system of education. The society declared itself opposed to military conscription on the grounds that it was contrary to Christian principle, and the conscription group was instructed to inquire into the treatment of conscientious objectors in certain European countries.

Relief work initiated by Friends Relief service and taken over by the Friends Service council in 1948, was continued among displaced persons in Germany and among refugees in Greece and elsewhere. It co-operated with the American Friends Service committee in work among Arab refugees in Palestine and also, by means of Friends Service units, in medical and relief work in nationalist and Communist China, and in India. Long established Quaker work overseas continued in India, China, Madagascar and elsewhere. During 1949 the Friends Committee for Refugees and Aliens, set up in 1933 with the flow to this country of German refugees, was discontinued. The chairman and the secretary of the Friends Relief service were awarded the *Médaille de la Reconnaissance Française* by the French government.

The Society of Friends in Germany lost members during the nazi period, but doubled its membership between 1945 and 1948 With an increase of 51 during 1948 the full membership stood at 450 in 1949; but at some meetings "friends of the Friends" exceeded the actual membership many times, so that the total congregations might well have been several thousands.

The year 1949 marked the centenary of the Bedford Institute association which is responsible for Quaker social work in seven centres in east London. (H. W. PE.)

United States. Statistics compiled by the Friends World Committee for Consultation indicated that there were more than 176,000 persons in 1949 who bore the name of Friends (Quakers). They composed 53 Yearly Meetings and annual conference groups all over the world, the largest being 119,000 in North America, 26,000 in Africa (chiefly in Kenya and Madagascar), 5,000 in Central America, 1,000 in Australia and New Zealand, 900 on the European continent and 400 in Asia The major channels of service were provided by the Friends Service council operating from London and the American Friends Service committee with headquarters in Philadelphia, Pennsylvania, and regional offices in 13 American cities. The American Friends Service committee organized a large-scale relief programme among Arab refugees in the Gaza area of Palestine where, in conjunction with United Nations Relief for Palestine Refugees, some 40 Quaker workers distributed food and clothing and provided shelter and medical services for more than 200,000 refugees.

The continuance of the "cold war" prompted the American Friends Service committee to set up a working party to study relations between the United States and Russia. In July the working party released a statement later printed in revised form under the title *The United States and the Soviet Union: Some Quaker Proposals for Peace.* The group concluded that Russian communism and western democratic capitalism were both likely to persist and that peaceful co-existence rather than victory by one side should be the aim of governmental policy. Three specific proposals for action were made: the re-opening of east-west trade; the creation of a neutralized and unified Germany; and the strengthening of the United Nations as an agency for settling disputes, for reducing armaments (including atomic weapons) and for fostering an atmosphere in which a more effective instrument of world government could be created. (*See* also CHURCH MEMBERSHIP.) (F. Ts.)

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FRUIT. Chief interest during 1949 centred round moss storage. Was it a practical and more economical alternative to the normal gas store? Woodland moss was shown: (a) to be capable of absorbing ethylene and acetaldehyde, the most important gases given off in the ripening of fruit, and at the same time (b) to give some control of humidity and a partial refrigerating effect. Invented in Switzerland and developed scientifically in France, this system was brought to Great Britain for trial in the 1948-49 season. The results were inconclusive, owing to a constructional fault in the building. In August two scientists of the Food Investigation organization gave a negative report upon the system after a ten weeks' laboratory test. Large-scale continuation trials took place in private hands through the winter.

Release of materials by the British government allowed fruit growers to build new packing and storing stations, both facilities being badly needed to improve the quality of the deciduous fruit supply. Four stations, with a combined handling capacity of 1,500,000 bu. were opened during the year and by December fruit-storing capacity was 50,000 tons, compared to 30,000 tons in 1939. Storage plants on a smaller scale were also extensively developed in the Netherlands. Another system of storing fruit—by dipping the individual fruits in an oil emulsion—was also given a full-scale trial in Great Britain.

World fruit production was estimated at some 10% higher in 1949 than in 1948—which was not a good year. Apples, pears, cherries, plums, apricots and peaches were all in larger supply, with citrus crops slightly below average. The U.S. harvested the largest crop of apples since 1939, and had to resort to government purchase for the school lunch and institutional feeding programmes in order to relieve the pressure of deciduous supplies on the fresh market. In Great Britain cherries were a record crop of 31,000 tons. Plums were estimated to yield at the 1939-48 average, with apples and pears 40 and 43% respectively above average. France expected a double table-apple crop but only half an average cider-apple crop. In general, the drought in western Europe affected quality more than yield, except in the case of soft fruits which were a poor crop.

To counter this general supply situation attempts were made to reverse the declining trend in international trade in fruit. Canada raised the import quota for horticultural products from 70% to 80% for the second quarter of the year, and lifted it entirely for the second half of the year. Following the wish of the Organization for European Economic Co-operation to liberalize intra-European trade, Great Britain applied open general licence procedure (with reservations) to horticultural produce. Imports of Canadian and U.S. apples were also increased, but overall, owing to a lower intake in the early part of the year, the horticultural import bill did not exceed average.

The British Ministry of Food de-controlled lemons in both price and distribution and adopted a policy of caution in the regulation of other fruit supplies. Apples and pears were de-controlled until the stored crop began to come on to the market, provided that prices were kept at reasonable levels. All soft fruits were freed from price control in 1949, but growers' prices were generally lower than in 1948. Strawberries, raspberries and blackcurrants together were down by about 12%. Soft fruit acreage in England and Wales was 3% above 1939. Respective acreages and indices (1939 = 100) were as follows: strawberries 20, 141 (108), raspberries 3, 779 (91), blackcurrants 15, 501 (149), gooseberries 6, 424 (70). (R. R. W. F.)

United States. *Apples.* The U.S. 1949 apple crop totalling 133,181,000 bu. was the largest since 1939, about 150% as much as the small 1948 crop (88,407,000 bu.) and a fifth above average.

Apricots. The 1949 crop in the commercial producing states, California, Washington and Utah, was 200,300 tons compared with 246,600 tons in 1948 and 12% less than the average for the decade.

Cherries. The 1949 U.S. commercial cherry crop was a large one of 243,730 tons, compared with 214,380 tons in 1948 and an average of 172,223 tons.

Dates. The Californian date crop of 1949 was estimated at 12,800 tons, compared with 16,240 tons in 1948 and only 8,352 tons average in the years 1938-47. Prices were slightly lower than in 1948.

Figs. The 1949 fig crop of California and Texas was even smaller than in 1948. California produced 28,400 tons of dried figs in 1949 (30,300 tons in 1948) and 7,000 tons not dried, compared with an average for 1938-47 of 33,030 and 16,130 tons.

Grapefruit. The 1949-50 U.S. grapefruit crop was expected to be a small one of 36,350,000 boxes, compared with 45,520,000 boxes in 1948-49 and an average of 50,528,000 boxes for the previous decade.

Grapes. The 1949 U.S. grape crop of 2,701,500 tons was slightly less than average and considerably below the 3,044,400 tons of 1948, but approximated to the prewar production. The California crop, 2,526,000 tons of the total, was far below the 2,857,000 tons of 1948 but about average.

Lemons. The expected 1949-50 average California crop of 12 million boxes (9,930,000 boxes in 1948-49) appeared to be selling at about $2·80 per box compared with $4·18 in the previous year.

Limes. The 1949-50 Florida crop of 250,000 boxes was large compared with 200,000 boxes in 1948 and an average of 158,000 boxes in 1938-47.

Olives. California in 1949 produced 39,000 tons, compared with 58,000 tons in 1948 and an average of 46,600 tons in 1938-47.

Oranges. The expected U.S. crop for 1949-50 was 105·6 million boxes, compared with 99,620,000 boxes in 1948 and an average of 93,593,000 boxes in 1938-47.

Peaches. The U.S. 1949 peach crop was estimated at 74,780,000 bu., considerably larger than the 65,352,000 bu. of 1948 and the 68,947,000 bu. average of the previous decade.

Plums and Prunes. The 1949 Californian plum crop, estimated at 90,000 tons, was one-third above 1948. Commercial dried prune production of 175,100 tons was 1% below 1948 and 13% below average.

Pears. The 1949 U.S. pear crop was a record one of 36,627,000 bu., about 40% more than in 1948 and 20% above average.

Pineapples. Florida pineapple production in 1949 was 5,000 boxes compared with 4,600 boxes in 1948 and an average of 9,900 boxes in 1938-47.

Strawberries. The 1949 strawberry crop was 8,866,000 crates, compared with the 10,224,000 crates in 1948 and an average of 9,138,000 crates in the years 1938-47. (J. K. R.)

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FURNITURE INDUSTRY. Shortages both of labour and essential raw materials proved serious handicaps to British furniture manufacturers in 1949. High Wycombe alone found itself 4,000 short of its 1938 labour strength of 10,000 and London and other big manufacturing centres reported a similar scarcity of workers. For this reason plans were put into operation for the recruitment of new labour and the training of apprentices.

On the materials side chief shortages were hardwoods and plywood and coverings and springs for upholstery. Imports of oak from the United States were negligible because of the dollar shortage and, although supplies from West Africa gradually improved, the devaluation of the pound to a lower rate than that of the franc upset plans for a big increase of hardwood imports from France. In March most furniture woods were removed from the strict rationing system and oak veneers were returned from government to private purchase, but these moves made no difference to the total volume of supplies. There was, however, a slight increase in the allocation of hardwood plywood and veneers to furniture makers towards the end of 1949, although at the same time

the allocation of softwoods for kitchen furniture manufacture was decreased.

Towards the end of 1948 furniture manufacturers had been granted freedom of design although under the utility scheme they were still bound by a minimum specification laid down by the Board of Trade. This continued measure of control together with the shortages of labour and materials prevented factories from working with maximum efficiency; any substantial reduction in prices and the evolution of a really new style of design were, therefore, delayed. In September the prices of non-utility furniture were de-controlled. This made little difference to public purchasing; prices dropped slightly but the high rate of purchase tax made them prohibitive to most people. The vast majority of orders were still for utility pieces in the new design-freedom ranges which were tax free.

On Jan. 1, 1949, the government set up a Development council for the furniture industry under the chairmanship of Sir David Waley. One of the council's first moves was to investigate the possibility of workable performance tests for essential furniture. The object of these tests would be to improve the general quality and durability standards of articles such as chairs and tables and to prevent the return of the cheap, badly made furniture marketed before World War II.

The bulk importation of foreign-made furniture under government ægis was halted by the liquidation of the Furniture Import (Emergency) association. (L. L.)

United States. At the close of 1949 the 4,000 furniture factories making wooden household furniture showed a 15% drop in volume compared with 1948 output, but the total value of their production ($1,250 million) had been surpassed only by the $1,475 million volume turned out in 1948. At retail, the 1949 output of furniture sold for approximately $2,500 million. During 1949 wholesale furniture prices were reduced 4 1%, the first reduction in eight years.

In 1949 modern furniture again outsold traditional. As in 1948, French provincial was the " high style " leader for the year with 18th-century English designs and Chinese adaptations rapidly returning to favour. Mahogany continued the most popular wood, with walnut, maple, oak and cherry following in that order. The most interesting development during the year was the invasion of the United States furniture market by England, Sweden, Norway, the Philippines, Belgium, Italy, Switzerland and Scotland. Canada and Mexico remained the only foreign furniture customers of U.S. furniture factories, and furniture imports were far greater than exports. No Japanese furniture was imported, but much Chinese cane furniture was sold in the U.S. during the year. France and Germany, once big exporters of furniture, were having difficulty in supplying their own market because of the shortage of materials. (*See* also INTERIOR DECORATION.) (J. A. G.)

FURS. The British fur trade experienced a most difficult year during 1949. Early in the year it was thought that the government's intentions were to reduce the 100% purchase tax on furs. This did not materialize however, and in spite of the abolition of clothes rationing in March, the sale of fur garments dropped to negligible proportions, creating considerable unemployment in the industry.

The devaluation of the pound certainly caused a great deal of activity during the last three months of the year; but this was believed to be only a temporary phase and could be attributed to the public's anxiety lest prices should rise as a consequence of devaluation.

The most favoured furs in the utility range were mink-dyed marmot, squirrel lock, beaver lamb, moleskin, pony and coney; and in the non-utility range mink, dyed ermine, dyed canadian squirrel, beaver, persian and indian lamb and musquash.

The export trade was very good, considering the restrictions with which exporters had to contend, and it was a matter for congratulation that a balance in favour of exports over imports was shown for the ten months ended Oct. 1949. The figures were: *Imports* for 10 months ended Oct. 31: (1948) £9,249,019; (1949) £7,652,691. *Exports* for 10 months ended Oct. 31: (1948) £8,818,222; (1949) £8,024,738. This currency gain, although small, was probably the only gain earned by a so called " luxury " trade in the United Kingdom.

Many events of importance took place during 1949 including the inaugural meeting of the International Fur federation in April at which delegates from 15 countries including Great Britain participated. Sir Patrick Ashley Cooper, governor of the Hudson's Bay company and first president of the federation, occupied the chair The London fur fashion parades held in May were attended by many overseas buyers. A considerable number of orders were taken and another parade was arranged for 1950.

Of much interest to the trade and the country was the progress made by British fur breeders. This industry would take years to develop but it was worthy of note that there were about 60 breeders in Great Britain and the 1949 production of mink alone was expected to exceed 4,000 pelts. (S. L. L.)

United States. The year 1949 was one of the worst that the U.S. fur industry had experienced for many years. Reduced consumer demand brought about a drastic deflation in prices. The supply of mink was abundant and prices were low. This fur declined in value during the first half of the year but recovered in the last quarter. Mink garments at prices 30% to 40% below those of 1948 created a new group of customers. Wild and ranch mink coats, capes, jackets, stoles, etc , sold well. New ranch mink coats sold retail in New York from $1,500 upwards.

Persian lamb, beaver and Russian squirrel furs were popular, but other furs were neglected and the long-haired furs were unwanted.

Promotion of fur lined cloth coats, tax free, reduced sales of fur coats. Tax free fur coats were denied further immunity from tax, and merchants were given until March 1950 to dispose of such merchandise.

All the fur exporting countries of the world shipped fur skins to the United States during 1949, especially the U.S.S.R. American furs sold steadily early in the year in many European countries, but quantities were limited because of the dollar shortage. In September, when sterling and other currencies were devalued, American fur shipments to most countries slumped.

The fur of greatest importance during the year was Persian lamb, of which about 6 million skins were sold at auction. Prices declined between 30% and 40% during 1949. The supply came in about equal amounts from Afghanistan, the U.S.S.R. and South West Africa. Estimates put ranch mink skin production in the United States and Canada at less than the 2 million 1948 total.

Furs dyed fancy colours were introduced. Midnight blue used on Persian lamb, broadtail, kid and squirrel was well received and other colours introduced were cardinal red, emerald green, caramel and navy blue. New styles were well received and favoured various collars, moderate sleeves and restrained back fullness. Popular lengths were 26 to 40 in.

Raw fur imports for the first ten months of 1949 were valued at approximately $91 million, compared with approximately $137 million for the corresponding period in 1948. Exports of fur skins for the first eight months of 1949 totalled approximately $26 million, compared with approximately $19 million in 1948. (W. J. BT.)

GABON: *see* FRENCH UNION.

GAMBIA: *see* BRITISH WEST AFRICA.

GAMBLING: *see* BETTING AND GAMBLING.

GAS. The transfer of the gas industry from company and municipal enterprise to state ownership was effected on May 1, 1949, when—under the Gas act, 1948—the property of 1,056 undertakings was entrusted to 12 largely autonomous Area Gas boards, which became responsible for the manufacture and distribution of gas, coke and allied products in England, Scotland and Wales.

The Gas council, comprising the chairmen of the Area boards and the chairman and deputy chairman of the council, took over the property and staff of the British Gas council and certain other organizations voluntarily established over the past 38 years by the former gas undertakings. The Gas council was to promote the efficient working of the Area boards and advise the minister of fuel and power on the gas industry. Whilst the Gas council had extensive responsibilities in financial matters and in research, education and employment, it otherwise regarded itself as a consultative body, except in so far as duties—for example, national publicity—might be entrusted to it by the Area boards. The Institution of Gas Engineers and the Gas Research board continued to be financed by the industry for the conduct of education and research respectively.

A Gas Consultative council, representative of gas consumers, was established in each area to consider matters affecting the supply of gas, the chairman being a member of the Area board. The members of these councils and of the Area boards and the chairman and deputy chairman of the Gas council were appointed by the minister.

The Area boards having deemed their responsibilities to demand almost complete autonomy, a common policy and practice did not emerge during 1949. Each area was, however, divided for operational purposes into a varying number of divisions, with sub-divisions comprising one or more of the former undertakings, under divisional or sub-divisional managers, but without uniform administrative methods as between the areas.

The Area boards in general found plant to be reasonably up-to-date and adequate, the works well managed, the distributing systems sufficient and the service to consumers good. There were, however, largely owing to the effects of the prolonged threat of nationalization and the long delay experienced in the installation of new plant, a number of undertakings where improvement was desirable. These improvements were facilitated by the ability of the Area boards to integrate, geographically and functionally, the production, distribution and administrative resources of the individual units. Nevertheless, amongst the more intractable problems there remained that of the small undertaking, situated too far from large centres of population to be supplied with gas, managed from a central source and where the capital costs of maximum efficiency could not reasonably or economically be met, in the past, by small communities.

A committee representative of the National Coal board and the Gas council was set up to implement the requirement of the Gas act that the two industries should co-ordinate their carbonization activities, in order to avoid waste of coke oven gas or over-production of coke, to conserve coal and to improve the utilization of plant and labour. The fundamental issue of the price at which the coke oven gas was to be supplied to the gas industry, raised the question of joint working or the transfer of all carbonization to the gas industry.

The price of gas in many localities was increased subsequent to nationalization, in order to relate prices to the costs of production. The rationing of coke for domestic, non-industrial and smaller industrial premises was abolished at the end of 1949, the total stock of coke at the end of Nov. 1949, having increased to the excessive figure of 2,982,000 tons. The business of the industry increased during the year. In Nov. 1949, as compared with Nov. 1948, the average weekly production of gas increased by 600 million cu. ft. and the average weekly consumption of coal at gasworks increased by 17,000 tons. The demand for better gas coal and freedom to select the coals suited for the particular plant was not met, whilst further increases in the selling price of coal, which was not of prewar quality, brought the total rise in the price to two and a half times the figure in 1939.

Although some improvement was to be seen, there continued to be delay in securing new gas making plant and in the renewal and extension of mains. The production and variety of most domestic gas appliances improved, but in some areas their sale was restricted in order to avoid a demand for gas in excess of the output. Purchase tax was retained on water heaters, space heaters and certain other appliances, and gas refrigerators were almost unobtainable by the ordinary consumer owing to the export demand and housing authority priorities. Gas appliances continued to improve in design, efficiency and economy; new types became available.

Amongst the many technical problems discussed was the difficulty of producing gas at reasonable cost to meet peak demands, which are often very intermittent. At the conference of the International Gas union in London in June, it was generally agreed that the solution lay in the designing of plant, at a low capital cost, to be used only for abnormal peak requirements. The Gas Research board published a paper describing such a plant using oil. In the U.S.A. the use of natural gas was found to meet the problem, until the pipe lines carrying the gas approached maximum capacity, when they became subject to peak-load difficulties.

The proposed plans of the petroleum industry for refining in Great Britain some 20 million tons of oil annually would release large quantities of rich gas, equalling possibly one-quarter of the gas sold by the gas industry. Surplus refinery gas was supplied to Ellesmere Port, Shropshire, and similar supplies began to be given to Manchester, amounting daily to 600,000 cu. ft. of gas having a calorific value of 890 British thermal units/cu. ft. This development was of significance if suitable prices could be fixed.

The gas industry continued to expand in all countries, being particularly virile in the U.S.A. Progress was made in overcoming the devastation of war in Europe and arrears of constructional work were reduced. But for the heavy demand for, and the high cost of, plant and increasing gas prices, the expansion would have been greater than it was.

Compensation on nationalization was paid to the majority of gas shareholders during the year by the issue of 3% British Gas stock, 1990-95. The value of most shares was determined by the Stock Exchange prices on the dates stated in the Gas act, or by agreement between the stockholders' representative of each undertaking and the Ministry of Fuel and Power. The British Gas stock was issued at 100, but although its price temporarily rose to 101 7/16 shortly after nationalization, it then showed considerable depreciation, the lowest marking being 82⅜. (J. R. W. A.)

GAS TURBINES: *see* JET PROPULSION AND GAS TURBINES.

GAULLE, CHARLES-ANDRÉ-JOSEPH-MARIE DE, French army officer and statesman (b. Lille, Nov. 22, 1890), former leader of Fighting France (1940-44), former head of the French provisional government (Sept. 10, 1944) and first French prime minister after World

War II (Nov. 13, 1945-Jan 21, 1946), leader of the R.P.F. (Rassemblement du Peuple Français). (For his early career see *Britannica Book of the Year 1949*).

From his house at Colombey-les-Deux-Eglises, Marne, he continued to direct the R.P.F. in which a serious breach appeared on July 8, 1949, when Paul Giacobbi, Radical deputy and chairman of the R.P.F. *intergroupe*[1] in the National Assembly, resigned both the chairmanship of the *intergroupe* and membership of the R.P.F. executive council. In Paris, on March 29, de Gaulle said that there was not a "third force," but only Communists and non-Communists. At Saint-Malo, on Aug. 1, he insisted that if the North Atlantic treaty were to be effective the defence of France must be properly organized. At Versailles, on Oct. 2, he asked for new elections and expressed his confidence that there was a majority in France for a regime worthy of her. At a press conference held in Paris on Nov. 14, de Gaulle sounded a new note when he declared that the unity of Europe should have been built round a directly negotiated Franco-German settlement, based on their community of cultural and economic interests.

GEMS. The situation created by wartime restrictions on imports and supplies did not appear to improve in 1949. Perhaps, owing to a slight weakening in demand early in the year, the values of poor and medium quality goods eased further, yet that of specimen pieces continued to harden.

The immediate result of the devaluation of the pound in September was an appreciable increase of prices in all grades so that perfection goods became exorbitant in price and the year closed without revealing any indication that peak values had yet been reached. Retail sales gave no sign of the commencement of the anticipated slump, although retailers in general continued their endeavours to reduce stocks to the pre-1947 level.

The greatest gemmological interest of the year centred upon synthetic gemstones, produced by experiments carried out in the U.S.A., where, as a direct result of wartime necessities, synthetic star-sapphire and synthetic rutile had been produced. Specimens of the latter were exhibited in 1948 in England, where the asterias were only known through their descriptions in American reports. Even in the U.S.A., however, technical difficulties in production made it impossible to market these stones commercially and it was reported that production costs were too high for mass manufacture to be contemplated. The few specimens of the rutile that were examined were in private collections and would most certainly not be marketed. They were most remarkable stones, perfectly transparent and possessing such extraordinary strong colour dispersion that the fundamental yellow colour was partially masked. The synthetic star-sapphire was reported to possess a perfectly defined six-pointed star that was thought to be caused by the interference of light set up by its reflection from properly orientated needle-like inclusions of synthetic rutile. The determination of either gemstone presented no difficulty. The synthetic rutile was unlike any known form or colour of the natural crystal, and the synthetic sapphire was reported to contain the characteristic internal features typical of the usual product of the inverted blowpipe and distinguishable from the blemishes of natural specimens. The usual slight irregularities, characteristic of the natural asterias, were missing and the synthetic product might be suspected by the brightness and intensity of its star. (*See* also MINERALOGY.) (F. E. LK.)

GENETICS. During 1949 the interest of many geneticists was concentrated on the problems of cytoplasmic heredity, and the relations between hereditary units in cytoplasm and nucleus. A number of contributions to this subject were published in a symposium volume entitled *Unités biologiques douées de continuité génétique*, in which various kinds of self-duplicating particles, other than genes, were described, in such diverse forms of life as viruses, bacteria, protozoa, green plants and *Drosophila*. Nevertheless much doubt still existed regarding the reality of some of these particles.

Boris Ephussi reported the results of his extensive investigation into the character *petite colonie* in yeasts. This mutation occurred spontaneously in some species with a frequency of 1%, but much more often (to 100%) in cultures treated with acriflavin. The mutation was found as often in haploid as in diploid cultures, and breeding experiments failed to establish a Mendelian determination of the trait. It was therefore concluded that a form of cytoplasmic heredity was involved. Physiological studies showed that the mutants were able to utilize an exogenous substrate (glucose) only by a fermentative path, and this was evidently connected with the fact that the mutants showed no activity of the enzymes cytochrome oxydase or succino-dehydrase. It was further found that the activity of succino-oxydase (in normal cells) was bound to some large granules separable by centrifugation. The genetical study of this mutant and the transformation of populations of yeast by acriflavin treatment led to the hypothesis that there existed in the cytoplasm of normal yeast cells a self-reproducing corpuscular factor, whose loss or mutation produced the mutant cells.

Further progress was made on the study of the cytoplasmic factor or genoid in *Drosophila melanogaster*, rendering flies sensitive to killing by carbon dioxide. L. Goldstein obtained evidence of a mutant genoid, differing from that previously known in its transmission through the male germ cells. The new mutant was never (or with extreme rarity) transmitted through the male, whereas the original genoid was regularly transmitted in a certain proportion of cells. The new type was obtained by injecting hæmolymph from the old sensitive ebony strain (σ-e) into a white strain (σ-w).

The rapidly developing subject of chemical mutagenesis was surveyed by Charlotte Auerbach. Additional data were accumulated on the effects of mustard gas and nitrogen mustard on *Drosophila*, *Neurospora*, bacteria and other organisms. In general the effects of these substances were found to be similar to those of X-rays, though the chemicals produced a smaller proportion of large deletions and translocations than X-rays. An effect characteristic of mustard gas was the production of delayed mutations. Other substances proved to be mutagenic were: phenols (visible mutations in *Antirrhinum*, autosomal lethals in *Drosophila* and chromosome disturbances in *Allium*); urethane, especially when mixed with potassium chloride (translocations in *Onothera* and mutations in *Drosophila*); formalin, when mixed with the food (*Drosophila*); and hydrogen peroxide, when added to the medium (bacteria).

A discovery which might prove of outstanding significance in the study of the mutagenic effect of radiations was made by A. Kelner and confirmed by R. Dulbecco. It was found that conidia of the actinomycete *Streptomyces griseus*, after having been inactivated by treatment with ultra-violet radiation, could be revived by subsequent exposure to visible light. The effect was readily reproducible and uniform, and resulted sometimes in a 400,000-fold increase in number of survivors in an ultra-violet irradiated suspension. The reactivation effect of visible light was proportional, within limits, to the intensity of the light and to the duration of exposure. The rate of reactivation increased with rising temperature from 20°C to 50°C. The photo-reactivation effect was also demonstrated with all seven of the T group of coli-bacteriophages, provided that the light treatment was applied to bacteria already infected by phage. The extent of

[1] In French practice a *groupe* is a parliamentary representation of a political party and an *intergroupe* recruits its members from many *groupes*.

the photo-reactivation was specific for each phage type. No reactivation was observed when either the irradiated phage, or the bacteria, or both, were exposed separately to visible light before mixing. No photo-reactivation was observed with phage inactivated by X-rays.

A. D. Hershey and Raquel Rotman obtained further data on the recombination of bacteriophage traits during growth in a bacterium. Two types of phage character were studied in a T_2 group: (1) host range (h), or the ability to grow in bacteria of a particular kind, and (2) the various rapid lysing types (r_1, r_7, r_{13}) characterized by a different plaque size. By infecting bacteria with two different types of phage simultaneously, new combinations of phage character were obtained after lysis, and the following recombination values were obtained: $h \times r_1$—15 ± 6; $h \times r_7$—7 ± 4; $h \times r_{13}$—1 ± 1, where the figures given refer to percentages of either recombinant in the total yield of phage. The authors developed a hypothesis according to which there was genetic interaction not between two phage particles but between two sets of independently multiplying chromosome-like bodies, or by something like crossing-over between homologous pairs.

Knowledge of the heredity of human blood groups was enlarged by the discovery of R. Race and others of a pair of alleles S and s very closely linked to the MN genes. No recombination was observed among 82 relevant children. This situation was therefore similar to the genetics of the well-known Rh character.

Books and articles by geneticists and others in western countries in both scientific and lay publications testified to the continued interest in the biological controversy in the U.S.S.R., where the school of T. D. Lysenko, denying the validity of genetics as based on Mendelism and the chromosome theory, was successful in attaining complete domination.

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GEOGRAPHY. The year was notable for the holding of the 16th International Geographical congress at Lisbon in April. These congresses convened by the International Geographical union have served, since the first was held at Antwerp in 1871, to bring together from all over the world those whose subject of study is the world itself. In the past they initiated such projects of general utility as the international map of the world on the scale of one to a million (about 16 mi. to the inch). The congress of 1949 renewed the continuity of the series which had been interrupted for 11 years by World War II and the Portuguese government and Portuguese geographers deserved the thanks of all for their tenacity in completing the arrangements in face of postwar difficulties and the disappointments which led to the congress' postponement in 1948. The congress was well attended and revealed a continuing activity in all branches of the subject during the difficult years since the last meeting at Amsterdam in 1938; years in which there had been little or no contact between workers in different lands. As far as the congress can be said to have had a single dominant theme, it was the necessity for understanding and making known the pattern of our human habitat, so significant in the application of science and technology. Among the new commissions set up at the congress was one for the employment of the international map to portray a wide variety of geographical distributions, in particular, the distribution of the world's population; other new commissions were to study world land use, regional planning and soil erosion. Their work should be reflected in the discussions at future congresses; the next was to be held in the United States in 1952, under the presidency of Professor George B. Cressey of Syracuse university. The retiring president, Professor Emmanuel de Martonne, was nominated honorary president of the geographical union for life in recognition of his long association with its activities.

Other congresses notable for their geographical bearing included the meeting of the British Association at Newcastle-upon-Tyne where section E (Geography) displayed much the same emphasis on land use and the human habitat. A congress was held at Johannesburg at which representatives from African countries and from states having commitments in Africa met to discuss the development of the resources of that continent. The seventh Pacific Science congress which met in New Zealand in Feb. 1949, though not primarily geographical, deliberated the problems of the Pacific environment in very much the same terms and research programmes were formulated similar to those adopted at Lisbon. A United Nations Scientific Conference on the Conservation and Utilization of Resources was convened in New York during August and September.

Another international congress, on an aspect of geography less obvious in its practical importance, met in Brussels to discuss geographical names. Yet the practical problem of arriving at a set of agreed place names is very real and, with the rapid extension of international relations, immediate. It might appear sufficient to use for each place the name by which it is known locally but even that name is often ambiguous and inadequately recorded; it can hardly be suitable for cartographical or postal use unless it has been transliterated into a script that is generally understood and it may exist only in a language that has never been reduced to writing. Many countries, for example Germany (to use the English form), have well established but widely different names in the languages of their neighbours. These problems were discussed at the conference, though no final conclusions were reached. There were also papers on the fascinating subject of *noms de lieux-dits*, the names of fields and other parcels of land which, though seldom of more than extremely local currency, enshrine much historical and topographical information.

The development of the world's untapped resources, which loomed so large in the proceedings of the congresses, found its expression in the inception during 1949 of a number of important undertakings which cannot but be of interest to geographers. Work was begun in October on the first of a series of dams which would divert the headwaters of the Snowy river through tunnels beneath the Australian Alps to join the Murray river. The diverted drainage would furnish abundant hydro-electric power and, perhaps of greater importance, it would augment the area of the Murray irrigation in the dry interior of the continent. The Australian Alps intercept the rain bearing winds from the Pacific, standing between the relatively well watered but mountainous coasts of New South Wales and Victoria and the potentially fertile plains of the Murray valley; the dams and tunnels were to restore to the plains some of the moisture they might have enjoyed had they not been shadowed by the mountains.

The Nile has long been controlled in the interests of Egyptian irrigation; but the growing area of cultivation and the requirements of the Sudan have called for ever increasing storage capacities in the Nile reservoirs. A plan was authorized during 1949 by the Egyptian government for the control of the White Nile at the point where it issues from Lake Victoria at Jinja in Uganda. The dam at the Owen falls would serve to generate hydro-electric power, and the controlled level of the lake would ensure a greater regularity in the flow of the Nile, averting the floods and droughts equally disastrous to Lower Egypt. To reduce the losses by

evaporation it was proposed to construct a canal to bypass the papyrus swamps of the Sudan. A similar control of the Blue Nile at its point of issue from Lake Tana was envisaged. A point of interest was the effect which the more regular flow of the White Nile must have on the cattle-breeding tribes of the Sudan who, though they did not use its water for irrigation, depended on its periodical inundations for their pastures. This led to an investigation into the characteristics of river cross-sections.

The African groundnut scheme scarcely fulfilled its early promise and the report published by the British government in Nov. 1949 provided sober reading on a venture entered upon with enthusiasm but with an inadequate assessment of the geographical factors involved.

Even in normally well watered lands the exceptional weather of the year provoked a more than academic interest in the problems of water supply. In point of long standing records broken, it was a matter for the admiration of meteorologists. The greater part of western Europe experienced a long and almost rainless summer and a disastrous drought prevailed in Spain; on the other hand it was unusually wet and cold in Iceland and northern Scandinavia. A similar anomalous translation of climate was experienced on the eastern and western coasts of North America. In England there was concern for public water supplies and the flow of the Thames over Teddington weir became a feature in the newspapers; not only did it threaten the Londoner with a curtailed supply but it presented the Port of London authority with the problems of a polluted river. The possible consequences of climatic fluctuation were brought home to the geographer and it was seen that in a highly urbanized community, even in a temperate clime, water might become a limiting factor in the planning of towns and industries.

Since the great achievements of the 18th century, navigation had been an established rather than an actively growing branch of mathematical geography; but 1949 might be considered notable for two discussions held by the Institute of Navigation in London; the first on the use of radar at sea and the second on astronomical navigation in the air. Practical navigators met to discuss the limitations of the techniques now established and the fields, where knowledge was incomplete, for further investigation.

The political geographer saw fewer formal changes to his map of the world in 1949 than in previous postwar years, but the inclusion of Newfoundland in the dominion of Canada came into effect, having been decided by referendum in 1948. In the East Indies, the transfer of sovereignty from the Dutch crown to the new republic of the United States of Indonesia took place on Dec. 27. The city of Batavia was renamed Jakarta. During the year Transjordan was renamed Jordan; Iran, Persia; and Siam, Thailand.

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GEOLOGY. An exhibition of the work of colonial geological surveys held at the Imperial institute in July illustrated geological mapping in relation particularly to mineral wealth and water supplies. Also in July the fourth Empire Mining and Metallurgical congress met in London and Oxford. Papers with special reference to South Africa, Australia and Canada were read on modern mineral prospecting methods such as aerial photography and various geophysical and geochemical means; also on radioactivity measurements in the search for radioactive minerals.

The British Association for the Advancement of Science met in Newcastle-upon-Tyne. Professor Hans Petterson gave an account of the cruise of the "Albatross" which aroused wide interest. Two hundred long cores were taken of sediments at depths between 2,000 and more than 4,000 fathoms, their combined length exceeding one mile. Continuous echo-sounding records were obtained showing the profile of the ocean-floor which was in some places very irregular. Records of explosives in water at depths between 300 and 3,500 fathoms enabled the hard floor below the soft sediments, or the "bottom below the bottom," to be determined. It was thus found that the thickness of soft sediments in the Atlantic ocean was nearly 12,000 ft. whereas in the Indian and Pacific oceans it was less than 1,000 ft It is possible that lava flows in past times gave a "false" bottom and thus concealed the full thickness of sediments. Methods were suggested which might throw light on the age or chronology of the sediments represented by the cores. The radium content of sea water is less than that in equilibrium with the uranium but that of the very deep sea sediments is fairly high. It was supposed therefore that an intermediate product (ionium) in the uranium-radium reaction chain might be largely precipitated. Hence analysis of the various layers might be expected to give their relative ages. Also the species of Foraminifera in the *Globigerina* ooze varied in different layers and the variation was apparently related to the temperature of the water in which the species lived which suggested that it might be possible to identify past climates such as glacial conditions in these sediments. (*See* F. B. Phleger, *Bull. Geol. Soc. Am.*, vol. 60, 1949.)

In Section C (Geology), in a discussion on the education of a professional geologist, it was agreed that a post-graduate course of specialized training was beneficial. The president of section C (Professor W. J. Pugh) reviewed recent work on the Lower Palæozoic rocks of Great Britain.

Recent geological work of general interest. A. Holmes (*Geol. Mag.*, London, July-Aug. 1949) reviewed the ages of certain uraninites and monazites from the pre-Cambrian rocks of India and concluded that they represented two cycles of igneous action—one about 735 million years ago and the earlier about 900 million years.

E. C. Bullard (*Veröffentl. des Finnischen Geodätischen Institutes*, Helsinki, no. 36, 1949) discussed the age of the earth from the examination of radioactive and isotopic contents of lead in lead ores of various ages—a method which was suggested by A Holmes. He arrived at a figure of the time which has elapsed since the crust of the earth solidified of 3,290 ± 200 million years.

O. T. Jones and W. J. Pugh (*Quart. Journ. Geol. Soc.*, pt. 1, London, 1949) described an early Ordovician shoreline in Radnorshire near Builth Wells, Wales, which was still in a remarkably good state of preservation in spite of its great antiquity.

P. E. Kent (*Proc. Geol. Assoc.*, 1949) published a structure contour map based on numerous borings, showing the depths to the rocks which are older than the Permian. It showed four great depressions or basins filled with new red sandstone (Permian and/or Trias). The Solway basin exceeds 4,500 ft., the west Lancashire basin and the Cheshire basins are each more than 6,500 ft. and the Severn basin about 3,500 ft. The pre-Permian rocks in the Hampshire basin were believed to descend to about 12,000 ft. below the surface.

Hallam L. Movius, Jr. (*Journ. of Geol.*, Chicago, July 1949), described the stratigraphy of the Villafranchian in southern and southwestern Europe. The main conclusions were: (1) the Villafranchian deposits overlie Upper Pliocene and are immediately overlain by deposits of the first interglacial period (Cromer Forest beds); (2) they were laid down during a period of deterioration of climate (temperature) which heralded the first glacial stage. The Villafranchian is therefore Pleistocene and it was indicated in the correlation table that the newer red crag of East Anglia belongs to this

stage. An important review of Pleistocene research was published by the Geological Society of America (*Bull.*, vol. 60, Sept. 1949).

Geomorphology. E. S. Hills (*Geol. Mag.*, May-June, 1949) traced the development of ideas regarding the mode of formation of shore platforms. He considered that weathering at water level of rocks of various kinds, organic agencies and cementation might each have an effect in addition to the normal wave erosion in shaping these platforms.

L. King (*Geol. Mag.*, July-Aug., 1949) discussed the Piedmont problem with special reference to South Africa and considered that the feature was developed by sheet flow of water along the foot of highland areas.

C. A. M. King and W. W. Williams (*Geog. Journal*, 1949) investigated the movement and formation of sandbars by wave action. This work arose out of wartime observations on the distribution of sand under the shallow waters off enemy-held beaches which were also supplemented by tank experiments.

Economic. O. T. Jones (*Geol. Mag.*, 1949) discussed the volatile contents of coal seams and considered them to be the consequence of their former depth of burial. It was believed that the temperature at a depth promoted the loss of volatiles from vegetable matter, that pressure retarded it and the rate of sedimentation during the later stages of the coal measures might also have to be taken into account.

(O. T. J.)

United States. *General Geology.* Revisions of the *Introduction to Physical Geology* by W. J. Miller and *Geology: Principles and Processes* by W. H. Emmons and others became available. Some important new books included *Introduction to College Geology* by Chauncey D. Holmes, New York, and *Geology, An Introduction to Earth History* by H. H. Read, Oxford, England.

Historical Geology. Two outstanding textbooks appeared—*Introduction to Historical Geology* by R. C. Moore and *Historical Geology* by C. O. Dunbar. In Germany, Roland Brinkmann's revision of Emanuel Kayser's *Abriss der Geologie*, Part 2 of *Historische Geologie*, was issued. A. J. Eardley's valuable paper on "Palæotectonic and Palæogeologic maps of Central and Western North America," was published in the May issue of the *Bulletin* of the American Association of Petroleum Geologists.

Stratigraphy. A realization of the importance of facies changes in both pure and applied geology resulted in the publication of a symposium on the subject in memoir 39 of the Geological Society of America, based on a conference held under the chairmanship of C. R. Longwell. "Sedimentary Facies in Gulf Coast" was the subject of a far reaching paper by S. W. Lowman in the Dec. 1949 issue of the *Bulletin* of the American Association of Petroleum Geologists.

Structural Geology. In his presidential address before the Geological Society of America, published in the April *Bulletin*, James Gilluly attacked the widely accepted concept of the periodicity of mountain-building movements.

Petrology and Petrography. The problem of granitization dominated the field of igneous petrology. The November issue of the *American Journal of Science* carried a review of the problem by R. A. Daly. The results of studies of "Internal Structure of Granitic Pegmatites" by E. N. Cameron and others appeared as monograph 2, *Economic Geology*. The crystallization of a magma from the walls inward was considered to be the cause of zoning in these rocks. *Sedimentary Rocks*, by F. J. Pettijohn, represented an outstanding addition to the literature on geology. Continued interest in research on clays was indicated by several articles. In the January issue of *American Journal of Science*, C. M. Gilbert and F. J. Turner advocated universal stage techniques for the study of sedimentary rocks. In a brief article in *Science* for Feb. 18, W. H. Newhouse and others set forth a hypothesis for structural (planar) control of migrating chemical elements in metamorphic processes.

Applied Geology. Two main trends continued to dominate the study of metallic ore deposits: structural control and wall rock alteration. The former had received attention in the excellent *Structural Geology of Canadian Ore Deposits* (1948) by a number of authors, and the latter was the subject for a symposium at the 75th anniversary celebration of the Colorado School of Mines, Golden, Colorado. *Rock Alteration as a Guide to Ore*—East Tintic District, Utah, by T. S. Lovering and others, was published as monograph 1, *Economic Geology*. As an aid to prospectors for radioactive ores, numerous handbooks were published by governmental agencies. *Prospecting for Uranium* (U.S. Atomic Energy commission) and *Prospector's Guide for Uranium and Thorium Minerals in Canada* (Bureau of Mines, Canada) were examples.

The second edition of *Géologie des Gîtes Minéraux* by E. Raguin seemed valuable for a general study of mineral deposits. *Examination and Valuation of Mineral Property*, 3rd ed., by R. D. Parks, also merited the attention of mining engineers and geologists. A revival of interest in research on the geology of coal was evidenced by several excellent papers by G. H. Cady and others in *Economic Geology* and by a coal research symposium at the meeting of the Geological Society of America in El Paso, Texas.

Among petroleum geologists the interest in reef limestones as reservoirs for oil and gas increased rapidly as a result of discoveries and extensions of such types of pools in Alberta, Canada, and in the Permian basin of west Texas. Three new text and reference books in the field of petroleum geology appeared: *Subsurface Geological Methods*, a symposium by 42 contributors, compiled and edited by L. W. LeRoy and H. M. Crain, and published as a quarterly by the Colorado School of Mines; *Principles of Petroleum Geology* by C. G. Lalicker; and *Oil Fields in North America* by W. A. Ver Wiebe. (*See* also MINERALOGY; PALÆONTOLOGY; SEISMOLOGY.)

(B. H. P., F. M. V. T.)

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GEORGE VI, king of Great Britain, Ireland and the British dominions (b. York cottage, Sandringham, Dec. 14, 1895). During 1948 plans were announced for a royal tour of Australia and New Zealand in 1949 by the King, the Queen and Princess Margaret; but on Nov. 23, 1948, it was announced that the King was suffering from obstruction to the circulation of the right leg and that on medical advice he was postponing the visit. (See *Encyclopædia Britannica* and *Britannica Book of the Year 1949*).

On March 12, 1949, an operation of lumbar sympathectomy was performed in Buckingham palace by Professor J. Learmonth (who was later invested a knight commander of the Royal Victorian order). The King made good progress and at the beginning of April went to Royal lodge, Windsor. He returned to London to entertain the Commonwealth ministers on April 21 and on May 3 entertained the European foreign ministers who were in London for discussions on the constitution of the Council of Europe. On July 14 he received the Commonwealth finance ministers who were meeting in London. On June 9 he attended the trooping of the colour parade on the occasion of the official celebration of his

birthday in a semi-state landau instead of on horseback, and later in the same month he officially inaugurated "Colonial Month" at a ceremony at Church house, London. As colonel in chief of the Irish Guards he presented new colours to the 1st battalion of the regiment at Buckingham palace on July 27. On Aug. 3 he received the chiefs of staff of the



King George (left) with Field Marshal Viscount Alexander of Tunis, governor general of Canada, at Buckingham Palace, July 27, 1949, when His Majesty presented colours to the Irish Guards.

United States, Denmark, Norway and Great Britain. On Aug. 5 he left London for Balmoral castle for his annual summer holiday and was sufficiently recovered from his illness to take part in many grouse shooting excursions. He received King Abdullah of Jordan (*q.v.*) at Balmoral on Aug. 27; and on Sept. 15 held a Privy Council at which measures connected with the devaluation of the pound on Sept. 18 were approved. He broke his holiday in order to attend the wedding of his nephew, the Earl of Harewood, to Miss Marion Stein at St. Mark's, North Audley street, London, on Sept. 29. He laid a wreath at the Cenotaph on Remembrance day, Nov. 6, and on Christmas day broadcast to the peoples of the Commonwealth and empire.

GERHARDSEN, EINAR HENRY, Norwegian statesman (b. Asker, nr. Oslo, May 10, 1897), chairman of the *Arbeiderpartiet* (Labour party) and, from June 26, 1945, prime minister. (For his early career see *Britannica Book of the Year 1949*).

Early in 1949 he played a decisive part in the negotiations which preceded Norway's adherence to the North Atlantic treaty. In January he refused a Swedish suggestion of a Scandinavian grouping of neutrals. In March he rejected a proposal by Moscow of a Soviet-Norwegian non-aggression pact. After the general election of Oct. 10, he expressed pleasure at the success of his party and satisfaction that the continuance of stable government was assured. Due consideration to the opposition, however, would be given. "In times such as these," he said, "we should not indulge in the luxury of tearing each other to pieces in internecine struggle."

GERMAN LITERATURE. The only remarkable book connected with Goethe's centenary did not, in fact, come from an author in Germany but from Karl Viëtor, a literary historian, who for more than ten years had been teaching German literature at Harvard university. His *Goethe: Dichtung, Wissenschaft, Weltbild,* published in Switzerland, dealt with the intellectual and external influences that affected Goethe and found expression in his work and in his humanistic attitude to life.

There was a noticeable tendency among German critics rather to return to the "eternal treasure" of old poetry and prose than to discuss topical problems. In 1949 the attention of the younger generation was drawn to Gottfried Keller whose novels and stories expressed the bourgeois ideals of the 19th century for which a certain nostalgia was felt; Erwin Ackerknecht's *Gottfried Keller: Geschichte seines Lebens* traced the stages of the writer's literary development. Among other essays *Hölderlin und die Landschaft* by Romano Guardini, a Roman Catholic philosopher, was a masterly study which showed how the landscape in Hölderlin's poetry changed from romantic to classical and, finally, as his madness progressed, became chaotic. Helmut Wocke's *Hölderlins christliches Erbe,* however, was unconvincing in its attempt to show the influence of Protestant theology on the poet's thought. Perhaps the most comprehensive work in this category was Professor Ernst Robert Curtius' *Europäische Literatur und lateinisches Mittelalter* which was an illuminating and scholarly history of the sources of European literature.

In poetry, Stephan Hermlin's *22 Balladen* struck a new note; but the best that could be said of Rudolf Hagelstange (*Strom der Zeit*), Karl Ludwig Skutsch (*Dichterische Weisung*) and Horst Lange (*Gedichte aus zwanzig Jahren*) and other poets such as Alexander Lernet Holenia and Werner Bergengrün, was that they followed the tradition of Hugo von Hofmannsthal, Stephan George, Rainer Maria Rilke and certain classics without adding anything fresh and truly moving. Postwar German poetry remained a civilized but barren desert. The publication of Karl Zuckmayer's *Gedichte 1916-1948,* especially the poems written in the 1920s under the influence of Arthur Rimbaud, was welcomed.

There was more promise among young fiction writers. Ursula Risse's volume of short stories, *Verwehter Sommer,* was a curious mixture of fairy tale and existentialist thought. Her religious feeling and concern with mankind's fate suggested that she might become a significant writer. Herman Hakel's *Zwischenstation,* a collection of sketches and poems in prose, showed that he needed first to free himself from Franz Kafka's influence with its hopeless resignation. Grete Weil's short novel *Ans Ende der Welt,* a love story set among Jews condemned to be deported to the gas chambers, marked the new generation in literature. Werner Richter's *Die Geschlagnen* was a war novel which, however, had to be counted a failure. The unfinished third volume of Robert Musil's great novel, *Der Mann ohne Eigenschaften,* was published. Thomas Mann's *Die Entstehung des Dr. Faustus,* with the soul of a creative artist and the forces that struggle to possess it as its central theme, was eagerly read, although this work by Germany's greatest living writer did not altogether fulfil the high expectations it had aroused. (J. KR.)

GERMANY. A country of central Europe, bounded on the north by the North sea, Denmark and the Baltic sea, on the east by Poland, on the south by Czechoslovakia,

Austria and Switzerland, and on the west by France, Luxembourg, Belgium and the Netherlands. According to a declaration signed in Berlin on June 5, 1945, the country was under the supreme authority of the four Allied powers —the United States, Great Britain, the U.S.S.R. and France— and divided into four following zones:

Zones	Area (sq. mi.)		Population (May 17, 1939 census)		Population (Oct. 29, 1946 census)
British	37,723	94,634	19,785,500	44,523·3	22,344,900
United States	41,506		14,257,600		17,174,400
French	15,405*		6,088,900		5,004,000*
Soviet	41,623		15,157,100		17,332,900
Berlin	344		4,321,500		3,179,200
	137,335†		59,610,600		65,035,400

SOURCE: *Statistical Bulletin of the Control Commission for Germany (British Element)*

* Excluding the Saar (area, 734 sq. mi ; pop 874,400).

† Including some small German frontier areas which, as agreed upon under the six-power agreement of March 26, 1949, were taken over by Belgium, Luxembourg, the Netherlands and the Saar respectively (total area, 52·1 sq mi , total pop , about 13,500).

Before the *Anschluss* of Austria the area of Germany was 181,677 sq. mi. with a population (May 17, 1939, census) of 69,317,000. The British, Soviet and U.S. zones contained larger populations than in 1939; by 1946 the zonal increases were: British zone 12·9%, Soviet 14·4%, U.S. 20·5%. The additional inhabitants were mainly Germans evacuated or transferred from Poland and Czechoslovakia. Only the population of the French zone was less (3·5%) than in 1938. Chief cities (first figure, 1939 census; second figure, 1946 census): Berlin (4,332,242; 3,180,383); Hamburg (1,711,877; 1,406,158); Munich (829,318; 738,018); Cologne (772,221; 489,812); Leipzig (707,365; 608,111); Essen (666,743; 520,592); Dresden (630,216; 463,032); Frankfurt-on-Main (553,464; 389,097); Düsseldorf (541,410; 421,506); Dortmund (542,261; 436,198); Hanover (470,950; 347,040). Language (1946 est.): German with small admixtures of Lusatian (260,000 in Kottbus-Bautzen area), Polish (150,000, mainly in Westphalia) and Danish (17,000). Religion (1938 est.): Protestant 62·7%; Roman Catholic 32·5%; Jewish 0·7%; others 4·1%.

During the year Germany was virtually partitioned into two states with a special provisional regime for Berlin (*q.v.*).

Western Germany. Area, 94,634 sq. mi. Pop. (June 30, 1949, est.): 47,254,900 which indicated an increase of 2,731,600 since Oct. 29, 1946; only during the first six months of 1949 the population of western Germany increased by 407,000 including 105,000 returning prisoners of war and 162,000 refugees from the Soviet zone. Capital: Bonn (*q.v.*). President of the German federal republic, Dr. Theodor Heuss (*q.v.*); federal chancellor, Dr. Konrad Adenauer (*q.v.*); Allied high commissioners: British, Sir Brian Robertson; French, André François-Poncet (*q.v.*); U.S., John J. McCloy (*q.v.*). Allied commanders in chief in Western Germany: British, Lieutenant General Sir Charles F. Keightley; U.S., Lieutenant General Clarence R. Huebner; French, General A. Guillaume.

Eastern Germany. President of the German Democratic republic, Wilhelm Pieck (*q.v.*); prime minister, Otto Grotewohl (*q.v.*). Soviet Control commission: Army General Vasily Ivanovich Chuykov (*q.v.*), chairman; Ivan Fedorovich Semichastnov, deputy chairman; Vladimir Semenovich Semenov, political adviser.

History. The establishment of a West German Federal republic and of an East German Democratic republic in 1949 marked the final stage of the partition of Germany. The three western Allies, despite many disagreements, maintained a common policy of progressively handing back to Western Germany her sovereignty and of modifying and reducing the restrictions and limitations on her industry. The remaining restrictions were to be supervised by the Ruhr authority and the Military Security board.

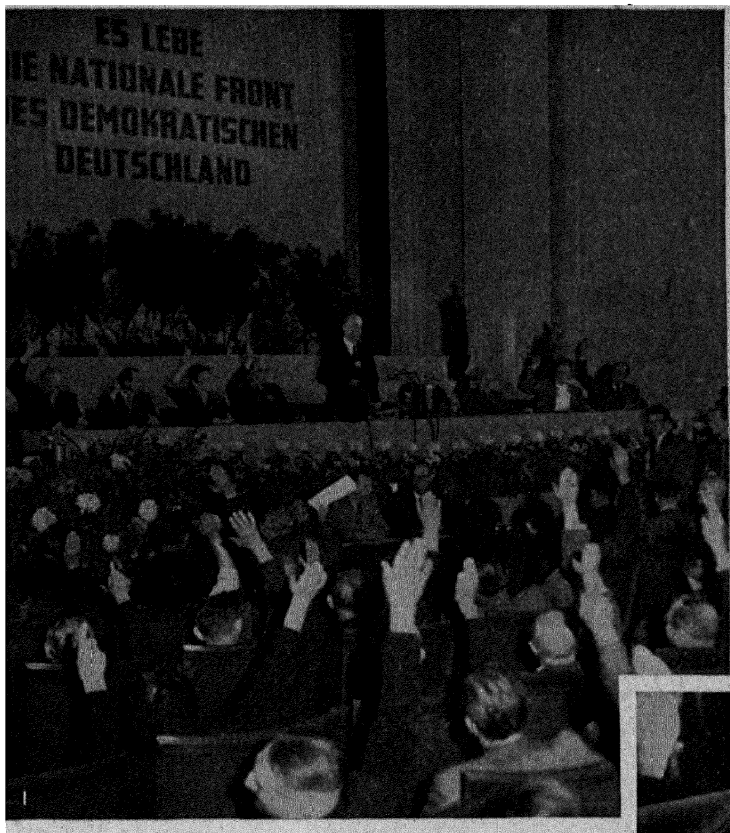
The Ruhr statute which was published by the three western Allies in Dec. 1948 laid down that a Ruhr authority was to allocate coal, coke and steel, prevent discriminatory trade practices and safeguard foreign interests in the Ruhr. It was to consist of 15 members (3 U.S., 3 British, 3 French, 3 German, and one from each of the Benelux countries). The German political leaders protested energetically against the Ruhr statute on the grounds that it would be used to prejudice Western Germany's competitive position and that such control could only be justified if its authority were extended over the whole of western Europe's heavy industry.

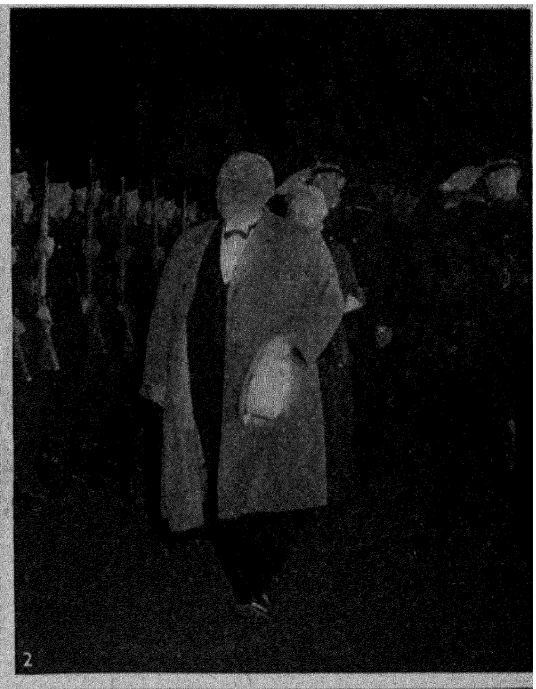
On Jan. 17 the Allied Security board was set up, consisting of Major General James P. Hodges (U.S.), Major General V. J. Westropp (Great Britain), General Etienne Paskiewicz (France). Its sphere of responsibility was to be prevention of military organizations, of the manufacture or import of arms, and of war preparations through scientific research.

Major political and industrial concessions to Western Germany which had been busily discussed in London during the first two months of the year became accomplished facts in April and May. On April 13, in Washington, the three western ministers of foreign affairs signed an agreement under which 150 industrial plants scheduled to be dismantled were to be struck off the dismantling list. The following production quotas were authorized in the case of the industries forbidden in 1945: ball-bearings 33 million units a year; aluminium 85,000 tons a year; styrin 20,000 tons a year. All synthetic petrol and synthetic rubber plants were to be dismantled with the exception of the Wesseling hydrogenation plant. Aircraft construction remained forbidden.

German Federal Republic. On May 8 the Basic law or constitution for the West German Federal republic was agreed by the parliamentary council of 65 members which had been elected by the state (*Land*) parliaments in Oct. 1948 and which had been drafting and debating this constitutional document for eight months at Bonn. Twelve votes were cast against the Basic law: six by the Bavarian Christian Social union and two each by the Centre party, the German party, and the Communist party. The final adoption was preceded by an anxious two months of debate and negotiation between the leading West German political parties and the Allied authorities. In general the Western Allies favoured in varying degrees a constitution which would establish a highly decentralized federal state. The Christian Democratic union were also in favour of concentrating more power in the hands of the individual states (*Länder*) than was thought desirable by the Social Democratic party who anticipated that without a higher degree of centralism the social reforms which they advocated could not be implemented. The most contested field was finance. A deadlock between the viewpoint of the western authorities and that of the Social Democratic leaders developed. On April 22 this was resolved by the Allied military governors handing over to the parliamentary council a letter from the three western foreign ministers which made the following concession in the direction of greater centralism: the federal government could claim—in addition to revenue from customs, monopolies, consumers' taxes, turn-over tax and property-tax—part of the revenue from income-tax and corporation tax; this additional revenue would be used to subsidize education, health and welfare in the poorer states.

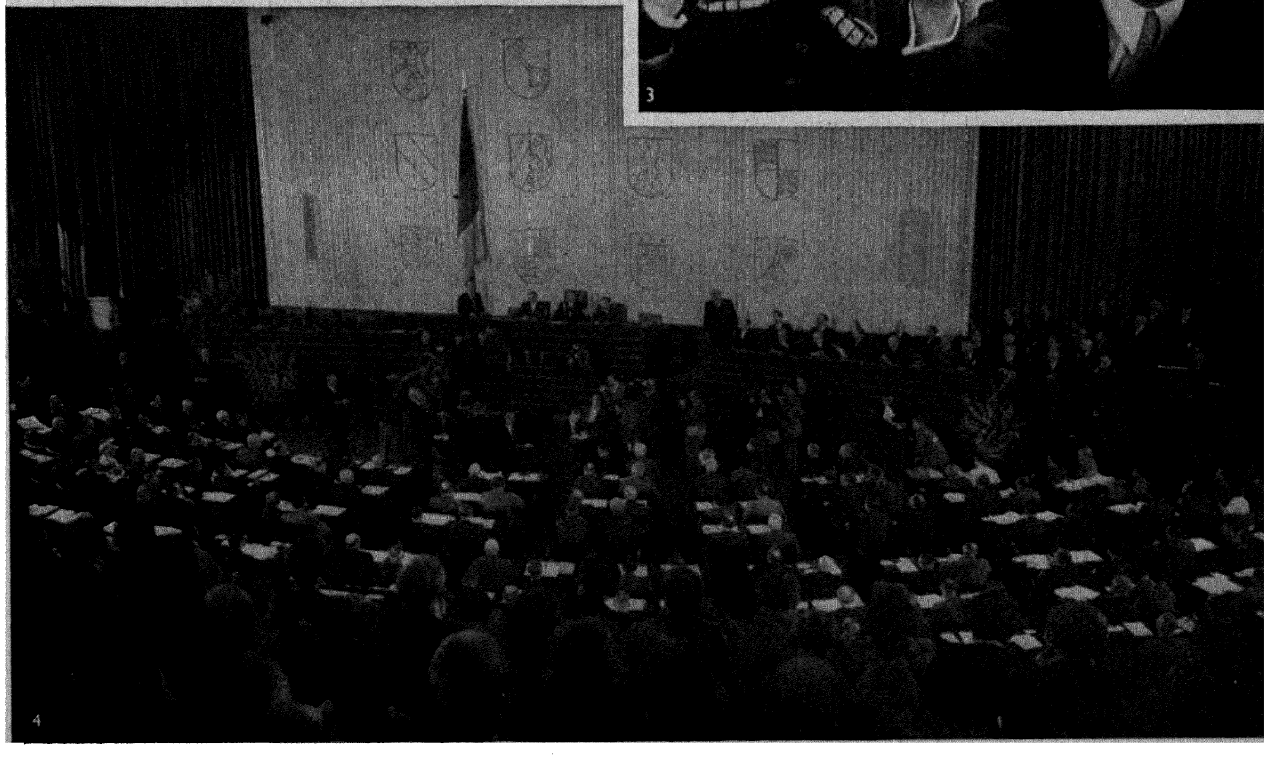
The Basic law, which finally emerged and was adopted, provided for a two-chamber system consisting of a Federal Diet (*Bundestag*) to be directly elected every four years and a Federal Council (*Bundesrat*) consisting of members of the individual state governments. The states were to have three to five representatives in the Federal Council, according to their population, but each state delegation was to have one







In 1949 two German governments were set-up. In Eastern Germany the people's council in Berlin (1) declared itself a provisional parliament on Oct. 7, and Wilhelm Pieck (2) was elected president. In Western Germany Theodor Heuss (3) was elected president on Sept. 12 when he received 416 out of a total 804 votes cast by both houses of the parliament (4), which met at Bonn.



vote only. The principal powers of the Federal Council consisted of the right to demand that a joint commission of the Federal Diet and the Federal Council should debate any given law, and of the right of veto. The Federal Diet could, however, overrule the council's veto by an absolute majority. The federal president was to be elected by a federal assembly consisting of the Federal Diet and 400 delegates elected by the state diets (*Landtage*); he was to propose the federal chancellor who would then select his ministers. Implementation of the federal government's laws was to be in the hands of the states, except in the following fields: foreign affairs, federal finance administration, post, inland waterways and shipping, federal railways, frontier control and criminal police.

Most interesting of the clauses of the Bonn constitution were two aimed at eliminating weaknesses in the constitution of the Weimar republic of 1919-33 which had led to the destruction of democratic government. The first was article 21 which ruled that " parties which by their aims or the behaviour of their supporters are calculated to damage or destroy the fundamental free democratic order are unconstitutional." The other, Article 67, to prevent party groupings in the legislature from following negative and irresponsible courses —laid down that the Federal Diet could only pass a vote of no-confidence in the chancellor if it chose a successor by means of a majority of its members and asked the president to dismiss the chancellor. According to the Basic law, Berlin was named as part of the West German Federal republic, but the three Allied military governors did not agree to the admission of the former capital in practice because of their desire not to embitter relations with the Soviet Union still further.

On Aug. 14 elections for the Federal Diet were held throughout the three western zones of Germany. Out of the 402 seats contested the Christian Democratic union allied with the Christian Social union won 139, the Social Democratic party 131, and the Free Democratic Liberal party 52 seats. The elections were fought with some bitterness, and the leading parties' chief bid for electoral support consisted in violent attacks on the occupying powers, particularly for their policy of dismantling (*see* ELECTIONS).

On Sept. 12 Dr. Theodor Heuss was elected federal president and on Sept. 20 Dr. Konrad Adenauer, the leader of the Christian Democratic union, formed a coalition government based on the C.D.U., the F.D.P. and the D.P. Noteworthy in Adenauer's first speech as federal chancellor was his declaration that Western Germany would not accept the Oder-Neisse frontier, which marked the border of the eastern territories annexed by Poland and the U S.S.R.

On the day following the formation of the West German government the western military governors made over to it extensive new powers. These were defined in an Occupation statute which placed all governmental authority in German hands, with the exception of the following reserved fields: disarmament and demilitarization; Ruhr control, reparations, decartellization, trade discrimination and foreign interests in Germany; foreign policy, displaced persons and admission of refugees; the prestige and security of Allied occupation forces; the safeguarding of exchange rates; control of internal affairs to ensure that money and food would be used so as to minimize aid from abroad; custody of people arrested or sentenced by occupation courts.

The three occupation authorities retained the right to resume full powers if necessary for security, for the maintenance of democratic government or for fulfilling international obligations. They also retained a right to veto any law within 21 days of receiving it, but pledged themselves only to exercise this right in the case of a law conflicting with the Basic law, with the state constitutions, the Occupation's laws, the Occupation statute, or the basic aims of the occupation. Provision was made for a review of the Occupation statute within 18 months after coming into operation.

The three military governors were re-named high commissioners to function as a unity in an Allied High commission which would not deal with German authorities below the level of the federal or state governments, except in the field of the reserved subjects.

Against this background of constructive political concessions Western Germany still had to face in 1949 two punitive measures in exaction of reparations: the first was provisional frontier rectifications at Germany's expense, the second the continuance of dismantling of industrial plants. The provisional frontier rectifications carried through on April 23 for the benefit of Holland, Belgium, Luxembourg and the Saar were very small. Only 52 1 sq. mi. and 13,500 German inhabitants were involved, but the West German political leaders and press attacked the unilateral rectifications bitterly as violations of the clause of the Atlantic charter in which the Allies had foresworn territorial annexations.

West German resistance to industrial dismantling reached a climax in the summer when the synthetic petrol plants in the Ruhr were dismantled. At Bergkamen and Ruhr-Chemie, Oberhausen, Allied troops had to occupy the factories before dismantling could proceed (June 12 and Sept. 5), and on July 29 six dismantling workers who had refused to dismantle at the Dortmunder Paraffinwerke were sentenced to two months' imprisonment, though subsequently released on good behaviour. Two workers of the same plant received prison sentences of five months and three weeks for assaulting a dismantling contractor, Erwin Muller (Sept. 15).

During the Washington talks between the three foreign ministers in September Ernest Bevin suggested that dismantling should be terminated by Nov. 1 On Oct. 8 the U.S. high commissioner in Germany, in a news agency interview, urged the ending of the " senseless dismantling." The French government were less willing to make further concessions to Western Germany.

German Democratic Republic. In October the event occurred which made agreement upon further concessions by the western Allies to the West German republic politically urgent and therefore easier of achievement. A German Democratic republic was proclaimed in the Soviet zone.

Already on May 16 a People's congress (*Volkskongress*) had been elected in the Soviet zone and the Soviet sector of Berlin under a plebiscite arrangement, each voter having the chance to vote " yes " or " no " to a single zonal list of candidates, also to " the unity of Germany," the early conclusion of a peace treaty and the withdrawal of the occupation forces. It was announced that 92% of the voters had gone to the polls and that 66% of these had voted " yes " in this election, in which there was evidence of falsification and pressure. This People's congress elected a People's council (*Volksrat*) of 400 which was transformed on Oct. 7, at a meeting in the former Air Ministry in Berlin, into a provisional People's Chamber (*Volkskammer*) for the new republic. A Chamber of the States (*Länderkammer*) was nominated three days later and on Oct. 11 the two chambers elected Wilhelm Pieck president of the Democratic republic. Half a million people marched past the new president in a torchlight procession. Otto Grotewohl, of the S.E.D. (Socialist Unity) party, formed a provisional government of 7 S.E.D. ministers, 3 from the Liberal Democratic party, 4 from the Christian Democratic union, 1 from the National Democratic party, and 1 from the Democratic Farmers' party. The key ministries —interior, justice and deputy premiership—were in the hands of the S.E.D. (Communist) ministers Karl Steinhoff, Max Fechner and Walter Ulbricht. At the same time (Oct. 10) General V. I. Chuykov announced that a Soviet Control

commission would replace the Soviet Military administration whose administrative functions would be transferred to the German provisional government. On Oct. 16 Gheorghy Pushkin was appointed Soviet ambassador to the new German Democratic republic and Rudolf Appelt was sent as German representative to Moscow.

On Aug. 20 Wilhelm Pieck had announced that the Soviet zone government would claim to represent all Germany, and on Oct. 21 the Western German chancellor answered by declaring: " Only the West German Federal republic has the right to speak for the German people."

The façade of concessions by the Russians to the Germans in their zone of Germany undoubtedly spurred the western Allies to improve the status of the West German republic. At a conference of the three western foreign ministers in Paris (Nov. 9-11), agreement was reached on a number of offers to be made to the West German government in return for its co-operation in the Ruhr Control authority and with the Military Security board. On Nov. 22 a protocol was signed at Petersberg by the three Allied high commissioners and the West German chancellor under which, in return for full German co-operation with the Ruhr authority and the Military Security board, dismantling was suspended of all except 11 plants. German consulates and trade missions were to be established abroad and Germany's participation in international organizations and in the Council of Europe was to be promoted. Her participation in the International Patent office at The Hague had been sanctioned on Nov. 17, and West Germany's representative had taken his place in the O.E.E.C. on Oct. 31.

International discussion as to whether Germany should be invited to join the new Council of Europe started in May 1949 when the statute of the Council of Europe was adopted and a clause was included providing for " associate membership," that is, membership of the consultative assembly only, in the case of countries such as Western Germany which could not send a foreign minister to the Committee of ministers.

At the first session of the Assembly of Europe in Strasbourg in August and September Winston Churchill energetically advocated West German membership but Robert Schuman, on behalf of France, laid down, as a pre-condition, that the Saar (*q.v.*) must also be admitted as a member. Churchill agreed that a Franco-German understanding on the Saar question was a prerequisite of Germany's admission. On Nov. 3 the West German chancellor stated in a newspaper interview that Western Germany would not refuse to enter the Council of Europe if the Saar were admitted. In this he was at variance with the Social Democratic party, whose leader, Kurt Schumacher, declared on Nov. 9 his opposition to the French proposal to admit the Saar. In November the committee of ministers meeting in Paris passed a resolution in favour of Germany's admission to the Council of Europe, and the way seemed open.

Behind the east-west tug-of-war over Western Germany and the mass of new constitutional documents and institutions which came into being in 1949, loomed, for the new federal government, three gigantic social problems: housing, unemployment and refugees. Five million new dwellings were required in Western Germany and the federal government planned a programme of 250,000 new dwellings for 1950; unemployment reached by Nov. 1949 a figure of 1,558,000; the total of refugees from the east in Western Germany was about eight million and was increasing at the rate of 1,000 a day in autumn 1949. Most of the refugees were embittered, impoverished and politically irreconcilable to the loss of their homeland. Many thousands of them were housed in congested camps. It was reliably estimated that DM.28,000 million would be required over a period of ten years to finance the businesses, agricultural holdings and dwellings necessary for the social and economic assimilation of the refugees.

In the first 10 months of the year about 240,000 German prisoners of war returned home from the Soviet Union. On Oct. 30 Wilhelm Pieck promised that the remainder would be repatriated by Jan 1, 1950. About 600,000 German prisoners of war and civilian prisoners still remained in the U.S.S.R. in December. (*See* PRISONERS OF WAR.) (D. A. SN.)

Education. In May 1938 Germany had 51,118 public elementary schools with 179,260 teachers and 7,596,437 pupils; 308 private elementary schools with 1,063 teachers and 24,783 pupils; 1,563 higher elementary schools with 9,582 teachers and 272,635 pupils; 2,319 secondary schools of several kinds with 671,000 pupils, 23 universities with 39,900 students and 44 other institutions of higher education with approximately 44,000 students. At the end of 1949 the latest available information on German education related to 1947-48 and this is summarized in Tables I and II.

TABLE I.—SCHOOLS. ELEMENTARY AND SECONDARY

	British Zone May 1947	U.S. Zone Nov 1947	French Zone* May 1948
Elementary	12,344	10,506	5,598
Teachers	49,500	32,588	13,514
Pupils	3,133,600	2,326,424	869,900
Secondary	645	476	258
Teachers	11,800	7,979	3,267
Pupils	282,800	221,812	81,550
Vocational	2,315	791	—
Teachers	10,000	3,791	—
Pupils	617,400	314,825	—

*Including the Saar

TABLE II.—UNIVERSITIES

	British Zone		U.S. Zone		French Zone		Soviet Zone	
	1939	1948	1939	1948	1939	1948	1939	1948
Universities	6	6	7	7	2	3†	5‡	5
Teaching staff	—	1,550	—	1,318	—	509	—	671
Students	10,515	26,132	11,520	32,406	3,623	13,134	5,163	12,269

†Including a new university in Mainz
‡Excluding the universities of Breslau (Wrocław) and Konigsberg (Kaliningrad) which together had about 3,000 students in 1939

In addition there was the University of Berlin which in 1939 had 6,100 students and in 1948 5,634 students and 157 professors and lecturers.

Agriculture. Tables III and IV show respectively the production of main crops and the amount of livestock.

TABLE III.—AGRICULTURAL PRODUCTION ('000 metric tons)
(W = three Western Zones and the Saar; E = Soviet Zone with production for 1934-38 in 1945 frontiers)

		1934-38	1947	1948	1949
Wheat	W	2,533*	1,229	1,960	2,430
	E	1,553*	483	999	—
Rye	W	3,114	2,023	2,749	2,784
	E	2,078	1,418	1,941	—
Barley	W	1,705	701	857	1,204
	E	1,029	423	428	—
Oats	W	2,865	1,696	1,922	3,020†
	E	1,590	893	809	—
Potatoes	W	19,977	14,493	23,721	20,875
	E	13,630	8,055	12,408	12,500
Sugar Beet	W	4,117	2,872	4,716	4,035
	E	5,467	3,122	4,583	3,775

* Includes spelt. † Includes mixed grains

TABLE IV.—LIVESTOCK ('000 head)

		Dec. 1938	Dec 1945	Dec. 1948
Cattle	W	12,306	13,694	10,320
	E	3,539		3,200
Pigs	W	12,510	7,136	5,616
	E	5,493		2,100
Sheep	W	1,987	3,380	2,362
	E	1,779		780
Horses	W	1,570	1,614	1,577
	E	810	590	570
Poultry	W	54,525	—	25,088

Production of certain foodstuffs in Western Germany ('000 metric tons, 1948; in brackets 1934-38 average): meat 730 (1,860), milk 9,004 (14,761), factory butter 157·8, factory cheese 91·4, sugar, raw value 473 (505)

Before World War II Germany grew almost nine-tenths of its own food. The total agricultural output in Western Germany in 1949 was about 85% of prewar, but that represented only about 60% of all

food consumed by a population 18% (over 7 million) larger than in 1939. Nevertheless, by the end of the year the Western German government announced its decision to abolish the rationing of all foodstuffs except sugar (excluding sweets). As food prices had risen 50% since the currency reform of June 20, 1948, there was no risk in so doing. "The banknote is a more effective means of rationing than the coupon," said Wilhelm Niklas, the food minister

Industry. The progress in production in basic industries is summed up in Table V.

TABLE V—WESTERN GERMANY: INDUSTRIAL PRODUCTION*

	1936	1946	1948	1949†
Coal ('000 metric tons)	116,964	53,946	88,416	103,000
Crude oil ('000 tons)	445·2	649·5	636·0	760
Electricity (million kwh)	24,588	23,820	31,320	44,000
Gas (million cu metres)	14,196	3,167	6,586	8,100
Steel ('000 tons)	14,232	2,556	5,556	9,000
Cement ('000 tons)	9,071	2,592	5,580	8,500
Motor vehicles.				
Cars	174,100	9,900	30,000	80,000
Commercial	45,900	13,400	29,600	50,000
Cotton yarn ('000 tons)	233·7	47·8	119·2	230
Wool yarn ('000 tons)	41·5	18·0	38·6	60
Synthetic fibres ('000 tons)	44·3	23·8	57·3	110

* Excluding the Saar † Estimates.

In the table above the year 1936 is given as a measure of comparison because the British and U.S. governments considered it a year of neither boom nor depression. But German rearmament was already in full swing in 1936. By 1938 Germany led the world in the production of lignite (195 million metric tons, used mainly as raw material for synthetic petrol), coming second after the U S. in steel production (23 million tons) and electricity and third after the U.S. and Great Britain in coal output (186·7 million tons). But it had to import a large part of the raw materials needed for its industrial production.

At the time of the currency reform in June 1948 the general level of industrial production was 51% of the 1936 rate. The currency reform proved to be a major economic stimulus and by Nov. 1949 the index number of industrial production in Western Germany stood at 98% of the 1936 level Although employment in manufacturing in Nov. 1949 was 26% greater than the 1936 average, there were 1,558,000 unemployed as against 831,500 in 1946.

No precise statistical information was available for Eastern Germany but general economic shortages prevailed there during the year. Textiles remained rationed. Clothes and shoes were virtually unobtainable in many areas. Bartering of textiles for meat and fats still went on Bread was scarce and of mediocre quality (66% flour compared with 80% in Western Germany). The trading organizations (Handels-Organizationen), special shops and restaurants selling at higher than the prices of rationed goods, increased steadily in number, and by Oct 1949 totalled 1,450. Reparations from current production delivered to the Soviet Union by Eastern Germany and costs of the Soviet occupation were as great as the occupation costs in all three western zones added together. Official German statements on the two-year plan for Eastern Germany, due to finish on Jan. 1, 1950, indicated that targets were reached in the heavy industries. Hard work was undoubtedly going on under pressure of the fear of forced labour and the stimulus of the "activist" movement in industry and agriculture, a copy of the Soviet Stakhanovist movement. Nevertheless, according to one reliable estimate, total production was not more than 55% to 60% of production in 1936.

Foreign Trade. With curtailed resources and an increased population Western Germany had to export considerably more than before World War II in order to pay for increased imports of raw materials and foodstuffs. In 1936 total exports of manufactured products from Western Germany amounted to about Rm. 3,000 million of which 70% consisted of metals, chemicals and the products of the metal-working industries; exports of mining products, principally coal, comprised 12% of the total Imports to Western Germany amounted in 1936 to Rm. 2,650 million. As the trizonal fusion became effective only towards the end of 1949, the following figures are of foreign trade of the British and U S. zones (Dm. million, 1948; 1949, six months, in brackets): imports 3,164 (3,051), exports 1,817 (1,756). The adverse balance which in 1948 was Dm. 1,347 million in the first half of 1949 reached Dm. 1,295 million. Foreign trade of the French zone (1948, Dm. million): imports 596, exports 353, adverse balance 243. It was estimated that Western Germany needed to treble its exports. In 1949 its share of world trade was only 3% compared with about 6% in 1938.

Transport and Communications. The total route length of German state railways on Jan. 1, 1938, was 54,335 km. After a loss of territory in the east the total route length was about 46,900 km., including 32,500 km. in the three western zones. By March 1948 the route length open to traffic in the British, U.S. and French zones was 32,468 km. with the following rolling stock (serviceable number in brackets): locomotives 17,051 (7,930), passenger coaches 28,521 (18,313), goods wagons 348,112 (261,539). It was planned to increase the number of serviceable locomotives to 9,200 and of goods wagons to 306,000 by the end of 1949.

By mid-1939 there were in Germany, within the Versailles frontiers, 212,732 km of roads, including 3,065 km. of *Autobahnen*. There were only about 182,900 km. of roads within the Potsdam frontiers, including about 128,000 km. in Western Germany. Licensed motor vehicles (Western Germany, Dec. 1948) cars 278,396, lorries 291,457, tractors 90,025, coaches and buses 8,134, motor cycles 445,652, miscellaneous 11,393; total 1,125,057.

High seas shipping included (June 30, 1939) 2,466 vessels of 4,492,708 gross registered tons, that is, it was still about 1 million tons short of the 1914 level Two-thirds of German shipping were destroyed in war operations and the rest was surrendered to the Allies Only vessels of small tonnage were left and by Jan. 1949 these amounted to 247,290 gross registered tons. The Potsdam agreement (Aug 2, 1945) prohibited the building of sea-going ships in Germany, but in April 1949 the British, U S. and French governments agreed to permit Western Germany to build an unlimited number of 12-knot ships not exceeding 7,200 tons each and in November Germany was authorized to build six special ships of greater tonnage and speed

The length of inland waterways, which had played an important part in the German transport system, was (Jan. 1938) 7,654 km. The inland waterways fleet numbered 17,756 vessels of 6,468,500 tons. This transport system suffered great damage during the war and about half of the tugs and barges were sunk or damaged At the beginning of 1949 the river and canal fleet in Western Germany amounted to 2 4 million tons Telephones (bizonal area, June 1949): subscribers, including public call boxes 1,069,000.

Finance and Banking. Before the currency reform of June 20, 1948, the budgets of the Western German *Lander* were in balance. For the first half of 1948 their total revenue amounted to approximately Rm. 2,500 of which 30% was spent on occupation and other war-induced costs After the currency reform revenue fell off sharply, partly reflecting prepayment of taxes in anticipation of the introduction of a new currency, partly because of tax evasion after the conversion By March 31, 1949, the end of the fiscal year, the total deficit was estimated at Dm. 600 million. By the end of the year the Bonn government had prepared the first interim budget of Western Germany for the period Sept 21, 1949-March 31, 1950, totalling about Dm. 1,534 million. Balanced mainly by means of the contributions of the individual *Lander* to the federal treasury, the interim budget could not have the importance of the first normal budget for 1950-51 when the federal government would have full control of its own revenue from taxation, excise and other sources. It was estimated at Bonn that the revenue of the 1950-51 budget would be Dm 8,000 and the expenditure Dm 10,100, including Dm. 4,535 million for occupation costs.

In Eastern Germany the 1950 budget estimates were as follows: revenue Dm. 17,630 million, expenditure Dm. 17,526 million—an expansion of 10% in comparison with 1949.

Before the currency reform of June 1948, currency supply (notes and deposits) in Western Germany amounted to about Rm. 150,000 million. The old Reichsmark balances of individuals were converted into new Deutsche Mark accounts on the basis of Dm. 6·50 for Rm 100. According to the reports of the Bank Deutscher Länder the note circulation was Dm. 5,053 million by mid-Sept. 1948, and Dm. 7,279 million by mid-Sept 1949. The Deutsche Mark did not have any official exchange rate, but for practical purposes the Joint Export-Import agency fixed a conversion factor at Dm.1 = U S. cents 30 On Sept. 28, 1949, after the devaluation of the pound sterling, the conversion factor was changed to Dm.1 = U.S. cents 23·8 which suggested a devaluation of the Deutsche Mark to the dollar by 20·6%. The conversion rate for the pound sterling was Dm.1 = 1*s.* 6*d.* before and Dm.1 = 1*s.* 8·4*d.* after the devaluation. In the western sectors of Berlin there was a special issue of about Dm (B) 400 million.

According to a report of the Deutsche Notenbank the note circulation in Eastern Germany was estimated in Feb. 1949 at Deutsche Mark (Ost) 4,112 million. Although theoretically at par, the free exchange rate in Sept. 1949 was Dm.(W)1 = Dm (O)5·70. Officially, however, no agreement could be reached as to the exchange rate between the two Dm. A special "counting unit" *Verrechnungseinheit* (V.E.) was therefore invented and towards the end of the year a commercial agreement was concluded between the two Germanys for an exchange of goods to the amount of V.E.287·7 million.

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(K. SM.)

GHEORGHIU-DEJ, GHEORGHE, Rumanian politician (b. Bârlad, Moldavia, Nov. 8, 1901), of peasant origin, worked as electrician with the state railways administration until 1932, when he was dismissed for revolutionary activity. From 1929 he was a member of the clandestine Rumanian Communist party. In 1933 he took part in the organization of the Griviţa railway workshop strike, was arrested and, in 1935, sentenced to 12 years' imprisonment. He escaped from prison and represented the Communist party at meetings which led to the formation of the National Democratic front. From Oct. 1945 he was secretary general of the Workers' (Communist) party of Rumania (Partidul Muncitoresc din România) and in Sept. 1947 was one of the Rumanian delegates at the conference in Poland at Wilcza Góra, at which the Cominform was created. He was minister of communications, 1944-46, on Nov. 30, 1946, became minister of national economy and on April 15, 1948, first deputy prime minister and chairman of the State Planning commission. On April 23, 1949, however, he was replaced in the latter capacity by Miron Constantinescu.

GIAUQUE, WILLIAM FRANCIS, American chemist (b. Niagara Falls, Ontario, Canada, May 12, 1895), graduated at the University of California in 1920 and received his doctorate in 1922. He then joined the teaching staff of the university and was instructor, 1922-27, assistant professor, 1927-30, associate professor, 1930-34, and in 1934 was appointed professor of chemistry. Throughout his career he specialized in studies of the properties of matter at the lowest attainable temperatures. For his extensive research in this field the Royal Swedish Academy of Science awarded him the 1949 Nobel prize for chemistry. He received the award in Stockholm on Dec. 10 and two days later delivered his Nobel lecture "Some Consequences of Low Temperature Research in Chemical Thermodynamics." Other awards presented to Dr. Giauque have included the Pacific division prize of the American Association for the Advancement of Science in 1929 (jointly with H. L. Johnston), the Chandler medal from Columbia university in 1936 and the Elliott Cresson medal from the Franklin institute in 1937. During World War II he was engaged on secret scientific work for the United States government.

GIBRALTAR. British fortress colony, situated on a narrow peninsula covering the western outlet of the Mediterranean sea. Area: 2·12 sq. mi. Pop. (Dec. 31, 1947): 22,532. Governor, General Sir Kenneth Anderson.

History. The United Kingdom government's decision not to create a Legislative Council, announced in July 1948, was rescinded; and the terms were published in August of a new constitution providing for a Legislative Council consisting of the governor as president, three *ex-officio*, two nominated (of whom both may, and one must, be an official) and five elected members.

In the late summer strong protests were raised against an expenditure of £2,250,000 incurred on the erection of 472 flats under a housing scheme sponsored by the United Kingdom government and which, it was claimed, could have been built far more cheaply with local labour. Linked with these protests were others against an increase on the duty on coffee from Aug. 2 and against a proposed new trades tax due to operate from Jan. 1950. A delegation from the Chamber of Commerce visited England to lay the local case before the secretary of state for the colonies.

It was decided to end the wartime evacuation scheme by the end of the year; evacuees from Gibraltar who were still in Britain could apply for repatriation up to that date.

Finance. Currency: pound sterling, with United Kingdom coinage and local government notes. Budget (1948): revenue £681,580; expenditure £652,755. (J. A. Hu.)

GILBERT AND ELLICE ISLANDS: *see* PACIFIC ISLANDS, BRITISH.

GIRL GUIDES. New appointments were headed by that of Princess Margaret as Sea Ranger commodore, so extending her connection with the movement to which she has belonged since 1937. Lady Stratheden and Campbell was appointed chief commissioner, Imperial headquarters, in place of Finola Lady Somers, and Viscountess Colville of Culcross succeeded Mrs. Stewart of Murdostoun as chief commissioner for Scotland.



Lady Stratheden and Campbell with guides at the association's headquarters in London in Oct. 1949 when she took up her appointment as chief commissioner.

Numbers showed an increase of 5,000 brownies and guides; the total membership in Great Britain stood at 445,000, and the world total at 2¼ million. The Guide club, for adult members of the movement, was opened at 46 Belgrave square, London, and was honoured by a visit from Queen Elizabeth. For the first time, all members of the movement were asked to contribute a penny a week to headquarters funds in order that headquarters could give the maximum amount of help to its members. The Princess Royal attended a colourful ceremony at St. George's chapel, Windsor, for the dedication of a standard for the chief commissioner for England. The standard, which took 10 years to make, was a magnificent example of embroidery and fine stitchery.

British guides again travelled widely to camps and international conferences and a party from Great Britain attended the Swedish national camp. Great Britain acted as hostess country to the conference for extension guiders (those working with handicapped children) which was attended by delegates from 16 countries. (B. PL.)

United States. On March 12, the 37th Girl Scout birthday, the "Clothes for Friendship" campaign was concluded. Final figures showed that over 150,000 destitute children in Europe and Asia had benefited by this effort. U.S. Girl Scouts were hostesses at a western hemisphere encampment in Manistee National forest near Muskegon, Michigan.

The Girl Scouts held their 13th national convention in Milwaukee, Wisconsin, Nov. 15-18. A new international service project, called "Schoolmates Overseas," was announced. Every Girl Scout troop would be expected to make and fill at least one schoolbag for needy children of other lands.

On June 30 there were 446,163 Brownie scouts; 611,622

intermediates; 54,348 seniors; 323,331 adult volunteers; and 1,065 local professional workers. (C. M. R.)

GLANDS: *see* ENDOCRINOLOGY.

GLASS. The British glass industry well maintained production during 1949. Supplies of raw materials and fuel were easier but coal was far below prewar quality. Sales of domestic and illuminating glassware increased by more than 5% above 1948. The production of glass containers exceeded the previous high level; the weekly average output fluctuated between 365,000 and 415,000 gross, the all-time high record of 415,000 gross per week being reached during January. Workers employed in the British glass industry continued to increase in number, the official Ministry of Labour figures being 67,000 in April 1949 (53,100 in 1939). The value of exports reached approximately £10 million compared with £8 4 million (1948) and £6 5 million (1947). More than half of this total was contributed by the plate and sheet glass section whose exports were about seven times those of 1938.

Among new developments were the production of glass beads and small glass spheres—known as *ballotini*—used for cinema screens, road transport signs, and medical purposes; and auxiliary electric melting, on the French pattern, was introduced in two glassworks, for bottle glass and borosilicate glass respectively.

European countries generally experienced a decline in the demand for glass products, especially flat glass, which was surprising, considering the vigour with which rebuilding was taking place, particularly in France and Italy. The largest flat glass factory in Italy, almost razed to the ground by bombing during World War II, was practically rebuilt during 1949 and the latest type of machinery for continuous plate glass production installed. About 36,000 workers were employed in the 360 glass factories of Italy. In France and Scandinavian countries additional electric melting furnaces were put into operation. Little news of the glass industry in the U.S.S.R. and its satellites reached the west but it was believed that new flat-glass furnaces using the Fourcault process were installed and output accelerated by the use of mechanical labour-saving devices, especially automatic batch chargers. Toughening of flat glass which was commenced in 1948 continued on a large scale.

In Western Germany, expansion of the glass industry greatly alarmed glass manufacturers of Belgium, France, Holland, Italy and Great Britain, who, in an agreed statement, called the attention of their respective governments to the danger of German competition.

Australian glass manufacturers extended their operations in Singapore and initiated a similar plant in Java. In South Africa the government ban on imports caused both the well established factories to increase their output and one commenced the enamelled labelling of bottles.

The International Commission on Glass, concerned with scientific co-operation and development of research in all glass-making countries, held a successful series of meetings in Belgium in June 1949. (E. MGH.)

United States. The slight recession in manufacturing during the early months of 1949 caused a decline in the production of all kinds of glassware. Later in the year, however, demand increased. Flat glass, made in 34 establishments, was produced in large volume. The automobile industry required unprecedented amounts of plate glass. The production of glass containers fell off 10% from the previous year, reaching a total of 90 million gross. These were made in 87 factories, employing about 45,000 people and using 4 million tons of raw materials. The total value of all glass products was somewhat less than in 1948 but it exceeded $600 million. Improvements were made in methods of drawing sheet glass, of drawing tubing and in feeding glass to automatic machines. Ribbons of glass a few thousandths of an inch in thickness were successfully produced to serve as dielectric layers in small condensers.

Manufacture of television tubes for the first time passed the million mark. Formerly, these were all made from glass containing lead to provide adequate electrical resistance. New lead-free glasses were developed for this purpose, equally non-conducting. The older names for the varieties of optical glass were virtually abandoned in favour of a numbering system. For example, a glass may be designated as 523: 64, which refers to a glass having an index of refraction of 1·523 and a "nu" value or reciprocal of dispersive power of 64. (S. R. S.)

GLIDING. Greatest activity in 1949 as in 1948 was in France where a government subsidy made gliding available to large numbers without charge. More than 60,000 hr. were flown in gliders and more than 200 skilled pilots earned their silver "C" badges. The year's achievements in Great Britain represented about one-third of this activity. Sweden was next and Netherlands, relatively new to gliding, began to rank fourth. For France, Guy Marchand set up a new international single-seat duration record of 40 hr. 51 min. in a Nord 2000 sailplane in March. The British distance record was taken back by Philip Wills from C. J. Wingfield with a flight of 232·6 mi. on May 1 in a Weihe. In the multi-seater class, K. L. Hurst and K. Simpson in a Kranich set up a British record of 138 9 mi. in Germany on May 28; and J A. Grantham and B E. Bell also in a Kranich set up a British height record of 10,080 ft. at Cambridge on July 24. The best out and return flight was made by J. W. S Pringle and J. A Grantham in a Kranich on Aug. 12, when they covered 77·2 mi. In the special category for non-British subjects, L. Marmol, a Czech, made a local duration record of 33 hr. 5 min. at Dunstable in April (L. C. SD.)

United States. J. Robinson set an international absolute altitude record by reaching 33,500 ft. in his glider on Jan. 1. This altitude flight was the result of direct application of theoretical and practical knowledge of atmospheric waves.

The Soaring Society of America held its 16th national soaring contest at Elmira, New York, July 2-10. Twenty-six pilots flew under a new set of rules in which a set task such as goal, goal and return, straight line distance and speed was determined each day for all pilots by the contest board. A total of 5,381 mi. was flown, 19 flights ranged from 100 to 200 mi. and the longest flight was 205 mi. P. B. MacCready, Jr., flying the Orlik, earned the title of national soaring champion for the second consecutive time

Another high performance sailplane became available to glider pilots during 1949 when the Civil Aeronautics administration approved the all metal single-place Schweizer 1-23 for production. (B. SK.)

GOLD. World Production. The Russian output of gold was not reported, but was variously estimated at 6 million to 7 million oz. in 1947, increasing from 3 million to 4 million oz. in 1944. While data were otherwise fairly complete, the lack of a definite figure for an output of this size made the totals subject to a certain degree of uncertainty. The countries listed in the following table account for 70% to 80% of the total output.

Canada. The recovery of gold production in Canada from the postwar slump was not interrupted. Output advanced from 2,696,727 oz. in 1945 to 3,070,221 oz. in 1947, 3,525,221 oz. in 1948 and 2,648,171 oz. in the first eight months of 1949.

South Africa. After a decline of 6%, the chief gold-producing country of the world recovered from 11,200,281 oz. in 1947 to 11,584,849 oz. in 1948 and 7,777,747 oz. in the first eight months of 1949.

WORLD PRODUCTION OF GOLD
(*Thousands of fine ounces*)

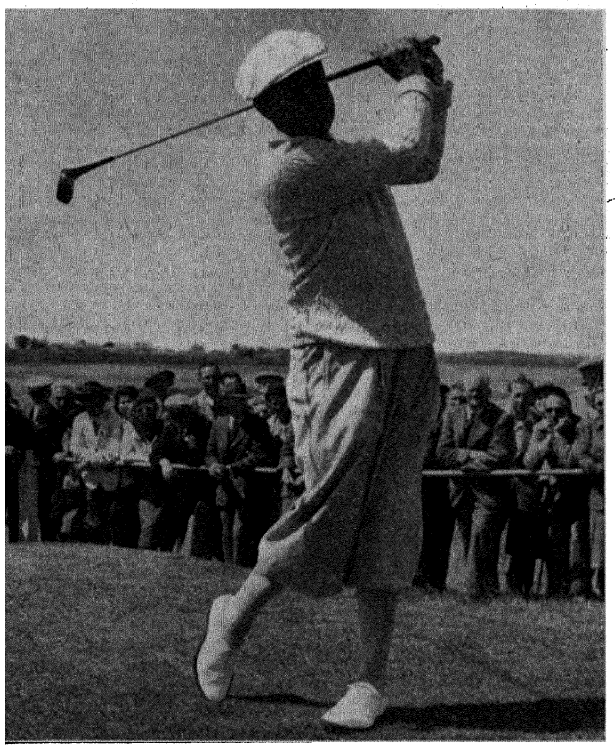
	1943	1944	1945	1946	1947	1948
United States	1,381	1,022	929	1,462	2,165	2,025
Canada	3,651	2,923	2,697	2,833	3,070	3,525
Mexico	632	509	419	421	465	368
Central America	280	271	244	218	250	262
South America	1,442	1,354	1,259	1,202	1,100	935
India	252	188	168	132	175	180
Belgian Congo	439	364	341	331	308	300
Gold Coast	565	534	475	587	560	672
Southern Rhodesia	657	593	568	545	520	514
South Africa	12,804	12,280	12,225	11,927	11,200	11,584
Australia	751	657	657	824	938	890
Total (est.)	28,900	26,400	26,100	27,500	29,800	29,600

United States. The mine production of gold in the United States rose from the postwar level of 954,572 oz. in 1945 to 2,109,185 oz. in 1947. Production dropped back to 2,014,257 oz. in 1948, and still further to 1,603,881 oz. in the first ten months of 1949. (G. A. RO.)

Gold Movements. So far as the long-term position of gold was concerned, the most important single development of 1949 was the currency devaluation, which included the pound sterling and the currency of 30 other nations. One result of this readjustment was to change the "price-cost" situation in gold mining in the devaluing countries. These areas accounted for roughly 80% of gold production outside the U.S.S.R. Devaluation had the effect of raising the price of gold by 10% in Canada; 14% in the Belgian Congo; and 44% in South Africa and other sterling countries.

After the currency devaluations and the categorical declarations that there would be no change in the official United States price of gold, the hoarding of gold in western Europe showed a tendency to decline, and prices in the premium markets such as Alexandria, Bombay, Hong Kong, Paris and Milan subsided noticeably toward the end of 1949. There was a marked reduction in the flow of gold to the U.S. The increase in U.S. stocks, up till the end of November, was $227 million. Thus the United States absorbed approximately 27% of the new gold produced during the year (outside the U.S.S.R.).

United Kingdom gold and dollar holdings fell by $527 million between Dec. 31, 1948, and Sept. 18, 1949, the date of devaluation, but by the end of the year had recovered $359 million of this loss. (*See* also MINERAL AND METAL PRODUCTION AND PRICES.) (E. H. CO.)



Bobby Locke, winner of the 1949 open golf championship at Sandwich, Kent, and second in the Irish open.

GOLD COAST: *see* BRITISH WEST AFRICA.

GOLF. After World War II the Walker and Ryder cup matches were resumed and were now played in the same year. In 1949 both proved disastrous for Great Britain—so much so, indeed, as to lead to discussion about whether it was worth while continuing them. Each had been won by the British in Great Britain, although not since World War II, but the form of 1949 led to the belief that the gap between the golfers of Great Britain and the United States was, if anything, widening.

At Winged Foot, New York, the American amateurs beat the British, captained by P. B. Lucas, by ten matches to two. At the United States championship later none of the British team performed with distinction. In Great Britain American professionals, led by Ben Hogan, victim of a tragic motor accident in February, lost the foursomes at Ganton, Yorkshire, by 3—1 but rallied in tremendous style to win the match by 7—5. On both sides the golf was of as high a standard as had been seen in this match. England won the men's international series and also beat France.

The open championship was won at Sandwich by the South African, Bobby Locke (*q.v.*)—his first "open" success. He had first tied with Harry Bradshaw of Ireland, at 283, equalling the record aggregate first set by Gene Sarazen on the adjacent links of Prince's in 1933. His play in the replay, which he won with 135 to 147, was the outstanding exhibition of 1949. It was held by some that Bradshaw lost the championship when his ball lodged in the broken half of a discarded beer bottle and he wasted a stroke in getting it out. Such a contingency was later provided for in the new rules passed at the business meeting of the Royal and Ancient in September, to take effect on Jan. 1, 1950. H. Bradshaw later won the Irish Open, beating Locke in the process. The Irish open amateur title was won by Dr. W. O'Sullivan on his home course at the Killarney Golf and Fishing club.

The amateur championship, the decision to play which in the republic of Ireland gave rise to criticism, was won at Portmarnock, magnificently and at the first time of entry, by S. McCready, of Belfast, who entered from Sunningdale. He beat the holder, Frank Stranahan (U.S.), and in the final another past holder from America, Willie Turnesa. In the first round of the final McCready holed the course in 70 to be 4 up. One down with 4 to play he won the next three holes for the match.

Despite this the outstanding amateur golfer of the year was R. White, of Southport, who won the English championship (beating Charles Stowe in the final at Formby), the *Daily Telegraph* foursomes (in partnership with Reginald Horne at Moortown) and both his matches in the Walker cup. Staleness prevented his showing his best form in the United States championship in which critics on both sides rated his chances high. The Brabazon trophy at Stoneham was won remarkably by P. Hine, a 17-year-old boy, with 287.

The women's title went to Miss Bunty Stephens at Harlech, where two of the strongest American women players failed. She beat Mrs. V. Reddan, Ireland, in the final. Later Miss Stephens made unsuccessful bids for the American amateur and open titles. Mrs. A. C. Critchley (Diana Fishwick)



Harry Bradshaw of Kilcroney, Ireland, second in the 1949 open championship and winner of the Irish open.

was lured from semi-retirement to win the English women's title at Burnham and Berrow

Among the professionals M. Faulkner won three tournaments, R. Burton two and T. Haliburton, S. King and F. Daly one each. D. Rees, after a dull period, won the match play championship by one hole after a thrilling final at Walton Heath with H. Cotton, who had in turn defeated two United States Ryder cup men, L. Mangrum and J. Palmer, on the same day. The outstanding professional was undoubtedly Charles Ward, who happened also to be the smallest. He won the Masters tournament and two others and for the second year running headed the averages, thus winning the Vardon Trophy. (H. L.)

United States. Sam Snead, Virginia-born professional, won the national Professional Golfers' association championship, the western open tournament and the masters' invitation tournament. His only defection was in the United States Golf association open tournament, where he made a poor selection of club at the edge of the 71st green. Fifteen-year-old Marlene Bauer easily won the girls' national and western junior tournaments, scored a number of major match victories over her elders and reached the national women's semi-finals in Philadelphia, where two stymies by Dot Kielty prevented her from reaching the title match. Winners of the national open and women's titles, respectively, were Cary Middlecoff, a dentist from Memphis, Tennessee, who had turned professional in 1947 after a promising amateur career, and Mrs. Dorothy G. Porter, Philadelphia housewife and mother.

The national amateur champion for 1949 was Charles Coe of Ardmore, Oklahoma, who bore out earlier predictions about his prowess by decisively beating Rufus King of Texas in the final bout at Rochester, New York.

The Western Golf association continued its Evans Caddie Scholars' foundation, a plan designed to give college education to deserving caddies. Fifty-eight boys who were beneficiaries of the foundation were attending 19 colleges and universities throughout the country during 1949. Bing Crosby, one of the directors of the W.G.A., was voted recipient of the W. D. Richardson trophy by the Golf Writers' Association of America for the year's outstanding contribution to golf.

The Women's Western Golf association also continued to be a prominent factor in United States golf. Louise Suggs won the W.W.G.A. open championship, and Helen Sigel of Philadelphia became the first easterner to win the association's amateur title.

Outstanding absentee of the 1949 season, but very much in the minds of golf fans throughout the world, was Ben Hogan, the Texan who preceded Snead as Professional Golfer of the Year. Almost fatally injured in a motor accident in February, Hogan came back as non-playing captain of the U.S. Ryder cup team on its tour of England. (C. BT.)

GONZÁLEZ VIDELA, GABRIEL, Chilean statesman (b. La Serena, Chile, Nov. 23, 1898), was elected president of Chile in 1946 and assumed office on Nov. 3, 1946. (*See* also *Britannica Book of the Year 1949.*)

On Jan. 26, 1949, it was announced that the emergency powers granted to his government in Jan. 1948 had been renounced. An announcement issued at the time stated that his government had " full confidence that Chilean democratic forces have erected an unbreachable dyke against any disruptive attempt by international Communism in our country." A general election on March 6 for a new Chamber of Deputies and 20 new senators gave his coalition government majorities in both houses. At a ceremony in Santiago on Feb. 11, Manuel Bianchi, Chilean ambassador in London, presented González Videla with a portrait of Admiral Lord Cochrane as a boy, a gift from the Anglo-Chilean society.

GOTTWALD, KLEMENT, Czech politician (b. Dědice, Moravia, Nov. 23, 1896), prime minister from July 2, 1946, and president of the republic from June 14, 1948. (For his early career see *Britannica Book of the Year, 1949*).

In a broadcast to the nation on Nov. 2 he said that it was " clear as the sun " that without the protection of the U.S.S.R. the Communist party could not have seized power in Czechoslovakia. He alleged that Czechoslovakia owed its creation as independent state to Russia, not to western powers. He also declared that events proved the Czechoslovak government's wisdom in rejecting Marshall aid and joining the Council of Mutual Economic Assistance formed in Moscow on Jan. 25, 1949.

GOVERNMENT DEPARTMENTS. The following were the chief officers of the more important public departments of the United Kingdom, Dec. 31, 1949.

Ministry or Department	*Name*	*Post*
Admiralty, Board of	Viscount Hall	First Lord
	Sir John Lang	Permanent Secretary
Agriculture and Fisheries Ministry of	Tom Williams	Minister
	Sir Donald Vandepeer	Permanent Secretary
Air Ministry	Arthur Henderson	Secretary of State
	Sir James Barnes	Permanent Under Secretary
Bank of England	C. F. Cobbold	Governor
	W. H. Nevill	Secretary
British Museum	Sir John Forsdyke	Director and Principal Librarian
Cabinet Office	Sir Norman Brook	Secretary of the Cabinet
Central Land Board and War Damage Commission	Sir Thomas Phillips	Chairman
Charity Commission	J. C. G. Pownall	Chief Commissioner
Civil Aviation, Ministry of	Lord Pakenham	Minister
	Sir Arnold Overton	Permanent Secretary
Civil Service Commission	Sir Percival Waterfield	First Commissioner
Colonial Office	Arthur Creech Jones	Secretary of State
	Sir Thomas Lloyd	Permanent Under Secretary

Ministry or Department	*Name*	*Post*
	Sir John Calder Harold Downie	} Crown Agents
Commonwealth Relations Office	Philip Noel-Baker Sir Percivale Leisching	Secretary of State Permanent Under Secretary
Customs and Excise, Board of	Sir William Croft	Chairman
Defence, Ministry of	Albert V. Alexander Sir Harold Parker	Minister Permanent Secretary
Development Commission	Countess of Albemarle	Chairman
Duchy of Lancaster, Office of the	Hugh Dalton	Chancellor
Education, Ministry of	George Tomlinson Sir John Maud	Minister Permanent Secretary
Food, Ministry of	John Strachey F. G. Lee	Minister Permanent Secretary
Foreign Office	*Ernest Bevin *Sir William Strang	Secretary of State Permanent Under Secretary
Forestry Commission	Lord Robinson	Chairman
Fuel and Power, Ministry of	Hugh T. N. Gaitskell Sir Donald Fergusson	Minister Secretary
General Register Office	George North	Registrar General
Health, Ministry of	Aneurin Bevan Sir William Douglas	Minister Secretary
Health, Welsh Board of	G. C. H. Crawshay	Chairman
Home Office	James Chuter Ede Sir Frank Newsam	Secretary of State Permanent Under Secretary
Information, Central Office of	Sir Robert Fraser	Director General
Inland Revenue, Board of	Sir Eric Bamford	Chairman
Labour and National Service, Ministry of	George Isaacs Sir Godfrey Ince	Minister Permanent Secretary
Land Registry	G. H. Curtis	Chief Land Registrar
Law Officers' Department	Sir Hartley Shawcross Sir Frank Soskice	Attorney General Solicitor General
Lord Advocate's Department	John Wheatley Douglas Johnston	Lord Advocate Solicitor General
Lord High Chancellor's Department	Viscount Jowitt Sir Albert Napier	Lord High Chancellor Permanent Secretary
Lord Privy Seal	Viscount Addison	
National Assistance Board	George Buchanan Sir Harold Fieldhouse	Chairman Secretary
National Debt Office	G. H. S. Pinsent	Comptroller General
National Gallery	Philip Hendy	Director
National Insurance, Ministry of	James Griffiths Sir Henry Hancock	Minister Permanent Secretary
Paymaster General	Lord Macdonald of Gwaenysgor	
Pensions, Ministry of	Hilary A. Marquand Sir Arton Wilson	Minister Permanent Secretary
Post Office	Wilfred Paling R. A. Little	Postmaster General Director General
Prison Commission	L. W. Fox	Chairman
Privy Council Office	Herbert Morrison Sir Eric Leadbitter	Lord President Clerk
Public Prosecutions, Department of the Director of	Sir Theobald Mathew	Director
Public Record Office	Sir Hilary Jenkinson	Deputy Keeper
Public Trustee Office	F. W. Hirst	Public Trustee
Public Works Loan Board	Sir Jeremy Raisman	Chairman
Royal Mint	D. J. Wardley	Deputy Master and Controller
Scientific and Industrial Research, Dept. of	Sir Ben Lockspeiser	Secretary
Scottish Office	Arthur Woodburn Sir David Milne	Secretary of State Permanent Under Secretary
Stationery Office	H. G. G. Welch	Controller
Supply, Ministry of	George Strauss Sir Archibald Rowlands	Minister Permanent Secretary
Town and Country Planning, Ministry of	Lewis Silkin Sir Thomas Sheepshanks	Minister Permanent Secretary
Trade, Board of	James Wilson Sir John Woods	President Permanent Secretary
Transport, Ministry of	Alfred Barnes Sir Gilmour Jenkins	Minister Permanent Secretary
Treasury	*Clement Attlee *Sir Stafford Cripps Sir Edward Bridges	First Lord Chancellor of the Exchequer Permanent Secretary
War Works Commission	Sir Thomas Phillips	Chairman
War Office	Emanuel Shinwell Sir George Turner	Secretary of State Permanent Under Secretary
Works, Ministry of	Charles Key Sir Harold Emmerson	Minister Permanent Secretary

* *See* separate article

GRAIN CROPS. The wide-spread and long enduring drought of 1949 was one of the most potent factors determining the year's production figures of cereals. Although wheat and rye were not much affected the dry weather seemed to have been responsible for somewhat reduced yields of oats, barley, maize and rice. As a major crop, rye was confined to northern and central Europe and here the yields appeared to have been rather less than in 1948 and lower too than in prewar times. The Canadian rye crop which achieved a record figure in 1948 reached less than half this figure in 1949. Oats and barley failed in general to reach the 1948 figures and fell some way below the prewar totals. The acreages of maize and rice in southern Europe continued to expand, especially in France, Greece, Hungary and Portugal. The rice crop of Hindustan and Pakistan remained about its prewar figure. Maize continued its advance northward in Canada.

The most intensive breeding work with rye was done in Sweden. New varieties with twice the chromosome number of normal rye were developed; these were of interest on account of their much larger kernels.

Sweden was also the country most actively concerned in the production of new barley varieties. Work continued on the production of new barley strains by means of X-ray induced mutations; and crosses between varieties of very different type were made in the hope of obtaining significant improvements in what was already a highly bred crop. Frost damage was still a limiting factor in barley growing in Sweden and Canada and in both countries efforts were made to secure hardier strains. Some barleys with reduced liability to breakage in the ear or stem, which should prove useful for combine harvesting, were developed in Sweden and renewed interest in naked barley as a possible source of barley flour or green fodder also led to some selection work.

One of the most serious problems confronting the oat grower was the fungus disease *Helminthosporium Victoriæ*. This disease arose in the United States in the early 1940s and later spread to Canada. It attacked the oat variety Victoria, specially bred for resistance to crown rust, and also various daughter varieties of the Victoria oat which derive their crown rust resistance from it. New sources of resistance to crown rust that were not susceptible to *H. Victoriæ* were incorporated into the Canadian oat breeding programme.

The continued expansion of the world maize crop remained one of the most significant changes in 20th century agriculture.

Much research on the production of new locally adapted maize types was done during 1949 in Canada, central and southern Africa, England, Italy and Portugal. While hybrid maize was the objective aimed at in many cases, there was a growing realization that the expense of producing hybrid maize was considerable and possibly in some cases prohibitive. Consequently, a number of countries decided to see what could be done by mass selection methods which, though unlikely to produce a maize crop yielding as heavily as hybrid maize, would at least give a crop yielding much more than unselected local varieties and at the same time involve only a comparatively slight expenditure in time or money.

Rice was another crop whose acreage in Europe and Africa was increasing. Selection work to improve local varieties was carried out in Italy and Portugal, also in central Africa and in Queensland, Australia. In India, where innumerable varieties already existed, special attention was paid to the development of rice varieties able to tolerate flooding or saline conditions. (R. H. Ri.)

United States. The U S. barley crop of 1949 was estimated at 238,104,000 bu. (British bushel = 1 032 U S. bushels), the smallest crop since 1937. The crop of 1948 was 315,894,000 bu. and the ten-year average 304,741,000 bu. The total harvested acreage of 9,879,000 was 18% less than in 1948 and 22% less than average, the major reduction being in the important producing states of North Dakota (26,608,000 bu.), Minnesota (25,464,000 bu.) and South Dakota (14,958,000 bu.). California, as usual, led in production with 47,038,000 bu. The average yield of 24·1 bu. per ac. was less than the 26·4 bu. of 1948 but approximately average for the decade.

The 1949 U.S. corn crop of 3,377,790,000 bu. was the second largest on record, 8% below the 3,681,793,000 bu. of 1948, but 21% above average. The large 1949 crop added to the record carry-over of 815 million bu. provided a total supply about 400 million bu. larger than the 1948 record. Acreage harvested was 86,735,000 compared with 86,067,000 in 1948 and 88,617,000 average for the decade 1938-47. Average yields per ac. declined to 38·9 bu. against 42 8 bu. in 1948, but only 31·4 bu. average for 1938-47.

The U.S. oat crop in 1949 of 1,322,924,000 bu. was 11% less than the 1948 crop but 7% above the ten-year average. An early spring favoured seeding of the crop on a slightly larger acreage than in 1948. However, a dry May and June in the main producing area in addition to heat and disease damage reduced the yield 4 5 bu. per ac. below the 1948 record, in spite of widespread use of improved varieties.

The U.S. rice crop of 1949 was the fourth consecutive record crop, reaching 89,141,000 bu., 42% larger than the 1938-47 average of 62,944,000 bu. and 5% larger than the 85,056,000 bu. of 1948. Acreage, compared with a government target of 1·6 million, was at a record level of 1,821,000. The yield of 49 bu. per ac. exceeded the 47·8 per ac. of 1948 and the 46·6 bu. per ac. average for the previous decade. Louisiana continued as leading producer.

The U.S. rye crop of 1949 amounted to 18,697,000 bu., the smallest crop since 1934. It was only 71% as large as the 26,449,000 bu. produced in 1948 and only 53% of the 1938-47 average production of 35,109,000 bu. Much of the decrease was accounted for by a cut in the acreage harvested to the lowest level since 1873, 1,558,000 ac. as compared with 2,096,000 ac. in 1948 and an average for 1938-47 of 2,874,000 ac. Only 47% of the acreage sown was harvested, the rest being either used for pasture and cover crop or abandoned. (*See* also WHEAT.) (J. K. R.)

GREAT BRITAIN AND NORTHERN IRELAND, UNITED KINGDOM OF. An independent kingdom in northwestern Europe, the United Kingdom comprises the main island of Great Britain, with numerous smaller islands off the English and Scottish coasts, and the six northeastern counties of Ireland. It is a constitutional monarchy, with a king and parliament of two houses, the House of Lords consisting of 3 peers of the blood royal, of 704 (Aug. 1949) hereditary peers (21 dukes, 27 marquesses, 133 earls and 523 barons), 26 spiritual peers (2 archbishops and 24 bishops), 16 Scottish representative peers, a number of Irish representative peers (in 1949, 7; vacancies no longer filled) and a few life peers who have held high judicial office; and the House of Commons, numbering 640 members, elected by universal suffrage. The table below shows areas and populations of the component parts of the United Kingdom:

	Area (in sq mi)	Population (Dec 31, 1948, est)
England, together with Channel Islands (*q v*) and the Isle of Man (*q v*)	50,327	43,676,000*
Wales (*q v*), including Monmouthshire	8,016	
Scotland (*q v*)	30,410	5,172,000
Great Britain	88,753	48,848,000
Northern Ireland (*q v*)	5,451	1,365,000
United Kingdom	94,204	50,213,000

* Wales pop (1948 est) 2,523,000

Cap: London (*q.v.*) (pop., est. June 30, 1949): city and metropolitan police districts 8,390,941; city and metropolitan boroughs only 3,389,850. Chief towns (est. June 30, 1949, if not otherwise stated): Glasgow (est Dec. 31, 1947) 1,106,000; Birmingham 1,107,200; Liverpool 802,000; Manchester 700,700; Sheffield 513,800; Leeds 505,400; Edinburgh (est. Dec. 31, 1947) 487,300; Belfast (Jan. 1, 1939) 443,500, Bristol 439,840; Nottingham 301,240; Hull 296,600. Newcastle-on-Tyne 295,240, Leicester 283,400. Language: English is almost universally spoken, but in Wales (according to the 1931 census) 3% of the population spoke Welsh only and 31% spoke both languages; in Scotland 0·15% spoke Gaelic only and 2 7% spoke both languages; in the Isle of Man 528 spoke English and Manx. Religions: Church of England (nominal membership 15 million, effective 5 5 million); Roman Catholic Church (England, Wales, Scotland and Northern Ireland, *c.* 3·5 million); Presbyterian established church in Scotland (1 6 million in 1949); Church in Wales (est. 250,000); Methodists 1·5 million in 1949); Jews (*c.* 400,000); *see* also CHURCH MEMBERSHIP. King, George VI (*q v.*); prime minister and first lord of the treasury, Clement R Attlee (*q.v.*); secretary of state for foreign affairs, Ernest Bevin (*q.v.*).

History. *The Home Front.* To the great majority of the people of Great Britain 1949 presented a picture of calm and the anxieties in their newspapers came no closer than the excitements of the news-reel. The number of people at work was extremely high; unemployment was so low as to blunt the desire to look for new jobs. It was only towards the end of the year that signs of unemployment in the shipbuilding and repairing trades warned the wider public that good times might not last for ever. The hours of work done per person per week differed hardly at all from the average in 1938; and with a huge labour force this made the output very high. The good-humoured calm that enveloped the working population was reflected in labour relations. There were a number of strikes, some of them irritating; but the total number of days lost in consequence was small; and the causes which set off the strikes lay in over-easy circumstances rather than in the presence of manifest wrongs to be righted. This applied, for example, to the so-called lodging turn strikes which occurred among a few railwaymen in June because footplate crews refused to spend the night away from their

homes. More serious were the dock strikes which ran along the coast from Liverpool to London and lasted intermittently from April until July. The go-slow movement at Smithfield was due to the porters' desire to prove that what seemed to be the modest amount of work they did in a week was in fact a full week's work.

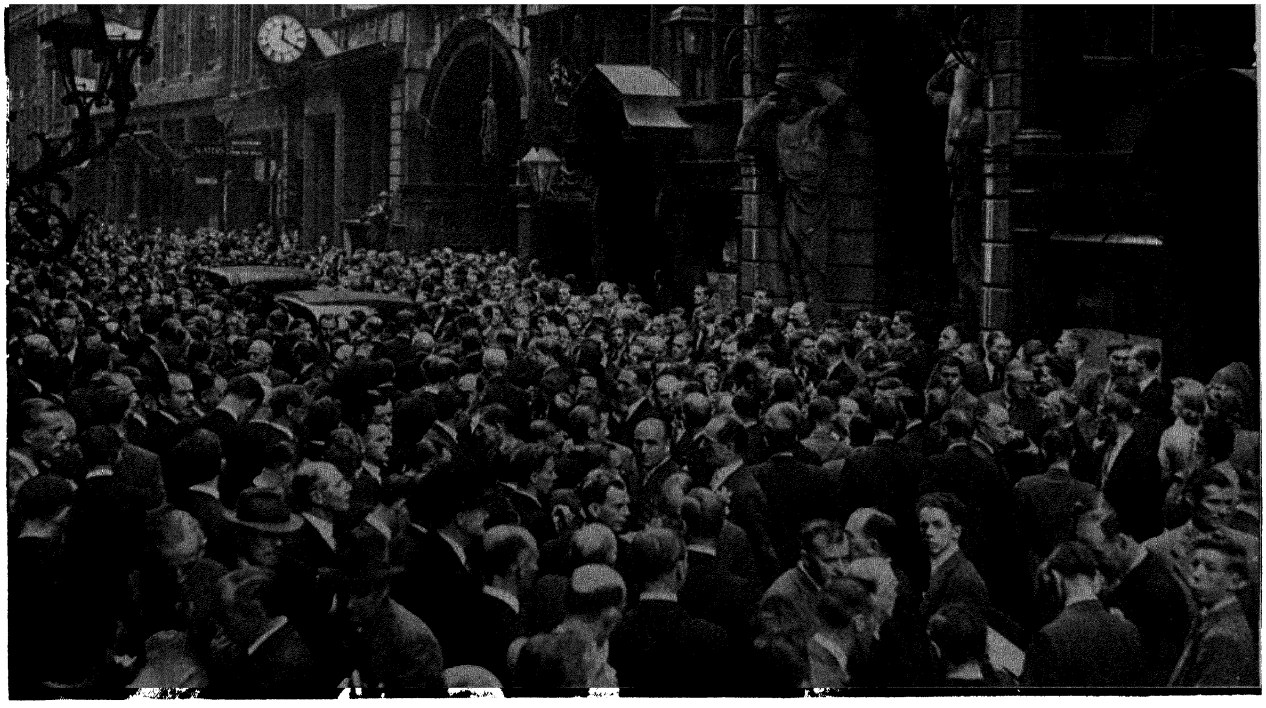
Some of these movements—particularly that among the dockers—were fomented by Communists. But their success was too slight to trouble the generally tranquil picture of the country as a whole. There had been warnings. In March the Trade Union congress condemned the disruptive tactics of the Communists, and in April the prime minister gave a general warning against Communism. Early in January Arthur Deakin, secretary of the Transport and General Workers' union, had claimed to have knowledge of Communist plans to disrupt industry in August; but August turned out to be a quiet month. And the general good temper was further illustrated by the action of the railwaymen as a body. Rather unskilfully led, the railwaymen put forward wage claims which British Railways would have been financially unable to meet. The claims were rejected by the Conciliation board. An attempt was thereupon made to get a " work to rule " (*i.e.*, a slow motion) movement under way; but it met with a heavy defeat.

For a large proportion of the population conditions of life were in fact fairly comfortable. Some scarcities diminished. Early in the year clothes rationing was ended to the accompaniment of a subsidiary " bonfire," as the president of the Board of Trade called it, of minor controls. The running of the important remaining controls grew smoother as experience suggested the adoption of appropriate devices for collaboration between the ministries and industry. The cost of living was virtually unchanged. So were wage rates.

The national quietism went naturally with the national state of good health. Great Britain was eupeptic. In the September quarter ir.fant mortality reached the lowest figure ever recorded, and the low rate for most diseases reflected the effects of the approach to economic egalitarianism. But the birthrate remained low; the population was ageing and this fact contributed to the quiet nature of the national temper. The country's moral health too continued to improve. The level of officially notified crime was higher than before World War II; but as memories of the war faded and as shops became better stocked the urge towards crimes against the person and against property lost force. In the London metropolitan police area a marked and contra-seasonal decrease of crime was reported in the second half of the year.

Political life developed on normal lines. Parliamentary by-elections showed the pendulum swinging slowly towards the Right but the opposition gained no seats. Some analysts observed especially that Liberal voters were sharing in the movement to the Right. This movement was manifest also in the local government elections held in April. As a general election was due at the latest in 1950 special attention was paid to the drafting of party programmes. The Labour party led the way, publishing in April a policy statement which was adopted by the party conference in June. In theory uncompromising, this document made some allowance for realities in practice. Nationalization was proposed for industrial assurance, the cement industry, sugar refining and manufacturing, the wholesale meat trade and slaughterhouses, cold storage, water supply and all suitable minerals. The chemical industry was to be examined and a development centre was to be set up for shipbuilding and repairing. Industries already nationalized were to be gradually decentralized and the " fruitful partnership " between private and public industry was to be extended. Some controls were to stay, others to be removed.

Conservative policy was stated in July in a booklet called *The Right Road for Britain.* The nationalized industries were to be decentralized but there was no mention of wholesale denationalization. Some important controls were to stay as long as they were necessary. Direct taxation was to be reduced, there were to be insurance and pension reliefs, and the social services were to be maintained, but waste was to be cut out. Attlee and other critics believed the reliefs were incompatible with lower taxation.



Stockbrokers, jobbers and their assistants carrying on a street market in Throgmorton street, London. The Stock Exchange was closed on Sept. 19, 1949—the day after Sir Stafford Cripps announced the devaluation of the pound.

As the year went on the government came to be more on the defensive. At the Trades Union congress conference at Bridlington in September Attlee stressed the need for higher production and urged that an increase in wages for the lowest-paid workers should not involve consequential increases all along the line. On this point the unions did not see eye to eye with the government.

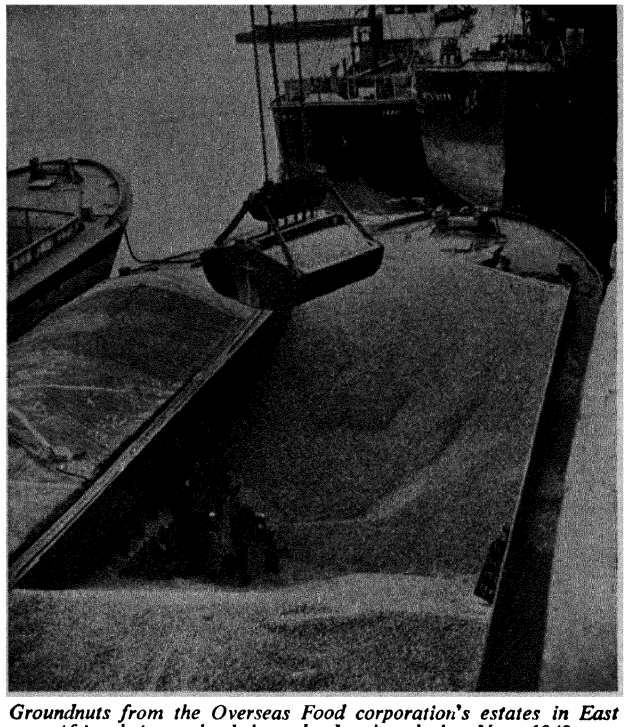
The Conservative party conference was held in London in October under the shadow of the devaluation crisis. It brought promises of support for any necessary sacrifices but did not produce a detailed programme for meeting the emergency. Winston Churchill, the leader of the opposition, eloquently refrained from saying that a Conservative government would scrap all Labour measures. The debate on the government's economy measures in connection with the dollar crisis showed that some Conservatives (*e.g.*, Anthony Eden) were ready for more drastic measures than those outlined in *The Right Road for Britain.*

By the end of 1949 the government had completed its major programme of legislation. It main objective now was the passing of the Iron and Steel bill and of the Parliament bill. In November the government agreed to delay the vesting day for the Iron and Steel industry until after the general election; and thus the bill reached the statute book without the application of a new Parliament act.

Economics and Finance. The almost idyllic conditions of the domestic scene were spoilt by the fact that the entire structure was built on sand: the entire economic field was dominated by the issue between national solvency and insolvency. Supplementary estimates published in February showed that an additional £58 million would be needed for the National Health service and a further £52 million for the Ministry of Food. The financial year ended on March 31 with a true surplus estimated at £352 million and the new budget provided for one of no more than £14 million. It represented a success for the forces of solvency; for the chancellor kept the subsidies (designed to keep the cost of living at a moderate level) at £465 million, or £103 million less than the rates ruling in the previous financial year would have cost.

Nevertheless, it presently appeared that the state was still spending more than it was receiving. Expenditure soon rose to a rate suggesting that long before the end of the financial year the estimates would be exceeded; there was no similar indication for revenue. The public too was in no saving mood. Savings were drawn on at a net rate of nearly £2 million a week, and the turnover of money (as measured, for example, by the figures of the provincial clearings) became more rapid.

Questions of internal solvency were overshadowed (despite the continued receipt of E.R.P. aid) by those relating to the balance of trade. In the second half of 1948 the country's oversea accounts showed a small surplus. In the second half of 1949 this trend was reversed and clouds rapidly rose above the horizon. The trouble was that, though the overall accounts balanced on paper, Great Britain (and the sterling area as a whole) was unable to balance its accounts with the dollar area. Though it had a surplus with the rest of the world the balances thus built up could not be used to pay for imports from the United States since many of Great Britain's debtors were themselves insolvent, so far as their foreign trade was concerned. British overseas trade policy was caught in a dilemma. If it concentrated on arranging two-sided trade treaties (as with Poland and the Argentine) it did nothing to foster the growth of world trade, without which British commerce cannot flourish; if it worked towards increasing the volume of world trade (as at the Brussels conference on the convertibility of currencies in June and at the Annecy conference on tariffs which ended in October) it ran the risk of financing the weaker countries' trade at its own expense.



Groundnuts from the Overseas Food corporation's estates in East Africa being unloaded at the London docks, Nov. 1949.

Officially, it was claimed that a solution of this contradiction existed; it was not apparent to the eye of the man in the street.

The flow of gold and dollars continued and after consultations at Washington it was decided to devalue the pound on Sept. 19. The rate, which had stood at $4·03 to the £ after 1939, was lowered to $2·80. It was hoped that this cheapening of the pound would stimulate exports to, and discourage imports from, the dollar area.

One powerful cause of the British trading difficulties lay in the high costs of production. Devaluation drew attention to this fact and consequently placed a question mark against the entire philosophy of the welfare state. The opposition therefore pressed for a general election; the government refused. In late October the government outlined fiscal steps to correct the drift towards bankruptcy. They were, however, judged inadequate. The year ended with a widespread conviction that more drastic decisions would have to be announced after if not before the coming general election. Non-political observers suspected that the opposition were exaggerating and the government were belittling imminent dangers, the motive in each party being an electioneering one. (*See* also POLITICAL PARTIES, BRITISH.)

Foreign Policy. Foreign policy was dominated by relations with the U.S.S.R. and to this extent formed part of a joint policy in which the United States held the leading part. Early in the year the success of the air lift supplying Berlin moved the Soviet government to agree to consultations which, in May, resulted in the restoration of the *status quo*, with a promise to convene the Council of Foreign Ministers (*q.v.*) to consider German questions. The council duly went through the form of joint consultations but nothing resulted. More important were the western attempts to build up a security system designed in reality if not in name to contain Soviet expansionism. The most important measure under this heading was the North Atlantic treaty (*q.v.*).

The Council of Europe, of roughly parliamentary form, was meant to express the element of supra-national unity existing in Europe. Its assembly (or lower house) met at

Strasbourg in August and September. It surprised many by providing evidence of solidarity: it kindled the imagination of the fairly large body of British public opinion which saw in the attempt to introduce a measure of unity into western Europe something more than a defensive instrument.

Like the American administration the British government was ready to take energetic action on its side of the "iron curtain" to restrain whatever ambitions might animate Soviet policy. But the government was unable to devise effective action beyond the curtain. For example, both Great Britain and the United States addressed protests early in April to Bulgaria, Hungary and Rumania on the score of their alleged violations of the peace treaties: but it was clear that this action was prompted rather by the wish to keep the diplomatic record straight than by the hope of weakening the Communist front. A similar inability to work out an effective policy was shown later in the year when Marshal Tito's breach with the U.S.S.R. became more and more violent. The impulse to assist him was evidently tempered by the desire to take no irremediable step about the Soviet Union.

As for Germany, policy was hampered by the fact that, if weak, the federal republic must be a drain on its victor-sponsors and a possible breeding-ground for Communism; but, if strong, it would sooner or later pursue an independent policy, and one not necessarily accommodated to the interests of the western powers by any pre-established harmony. The programme for setting up a Western German government was pushed ahead. The British government played a proper part in fostering its creation. At the same time it was accused of showing itself unable to grasp the implications of this policy. The dismantling of German factories listed as potentially dangerous continued through most of the year to the accompaniment of vocal protests and sometimes of physical violence on the part of the Germans. Towards the end of the year it became obvious that dismantling would be a major issue for the West German opposition and could not be disregarded by the administration. Probably the British government was not prompted solely by fear of the new Germany it was helping to build up; it would not wish to present the Soviet government with a cut and dried case for contending that the former enemy was being treated as a friend.

On the Soviet Union's eastern flank British policy was ambiguous. The Chinese Communists overran most of the country, and it was obvious that theirs was the dominant power. In view of this fact, and of the desirability of maintaining commercial relations, the government appeared anxious to recognize the Communists. Public opinion, seizing on the striking and the essential, concentrated its attention on relations with the U.S.S.R. and extended to every manifestation of Communism its hostility to that power. There was a strong craving for reassurance about the status of Great Britain. This showed itself in the indignation aroused by the Communist shelling of the frigate "Amethyst" on the Yangtse in April, and in the effervescent celebrations occasioned by the vessel's escape in July.

Commonwealth Affairs. Intra-Commonwealth relations showed that evolutionary quality which is necessary for the healthy life of any political body. With respect to India, for example, means were found for expressing the dominion's continued membership of the Commonwealth as well as its changed relationship to the traditional bond of empire, the crown. After exploratory conversations between British envoys and the respective dominion authorities, a Commonwealth conference was held in London from April 21 to 27. A formula was found declaring that India accepted the King as the symbol of the free association of the Commonwealth's independent member nations but also affirming that India was to become a sovereign independent republic. This recognition of apparently conflicting principles was approved by the other dominions.

An analagous reconciliation was effected by the Ireland bill, which was published on May 5 and declared that the republic of Ireland ceased to be part of His Majesty's dominions on April 18 but would not be a foreign country for the purposes of any law in force in the United Kingdom or the colonies. The bill also affirmed that Northern Ireland remained part of the British dominions. The measure had a bad reception in the republic of Ireland as perpetuating the so-called partition. But it correctly stated the facts of the situation

In the colonial empire stress was placed on economic development. In the Commons debate on July 29 Creech Jones, the colonial secretary, showed that he understood the need to build up a higher standard of living. The difficulty lay in the shortage of capital in Great Britain; and a report issued on July 29 by the Parliamentary and Scientific committee suggested co-operation with the United States in dealing with the under-developed areas. The hazards of colonial development were illustrated by the history of the government's groundnuts scheme. Early in November it was officially stated that over £29 million had been spent on the undertaking. It was clear that, whatever its ultimate fate might be, the project was a long-term pioneering endeavour and exposed to all the difficulties inherent in this kind of effort.

As the year advanced the financial difficulties of Great Britain and of the sterling area received growing attention. A conference of Commonwealth finance ministers sat in London from July 13 to 18. It expressed its appreciation of the need for a single many-sided system of world trade and payments and it discussed means for expanding the sterling area's earnings of dollars. The rate of the outflow of gold and dollars did in fact decline during the third quarter of the year. Equally important, within the sterling area, were the war debts owed by Great Britain to some of the dominions. In August arrangements were concluded with India and Pakistan (Cmd. 7760 and 7765, H.M.S.O., London) governing releases of sterling to these creditors. If measured against the sums owed the releases were moderate; if against the British straits, large. They were criticized on both grounds (*see* BRITISH EMPIRE). (W. L. A.)

Education. The Education acts for England and Wales (1944), for Scotland (1945) and for Northern Ireland (1947) had the effect of causing certain postwar information to be summarized in forms not always comparable with prewar statistics. Totals, however, might be compared and in Table I figures are given for 1938 and 1948.

TABLE I.—PRIMARY, SECONDARY AND FURTHER EDUCATION

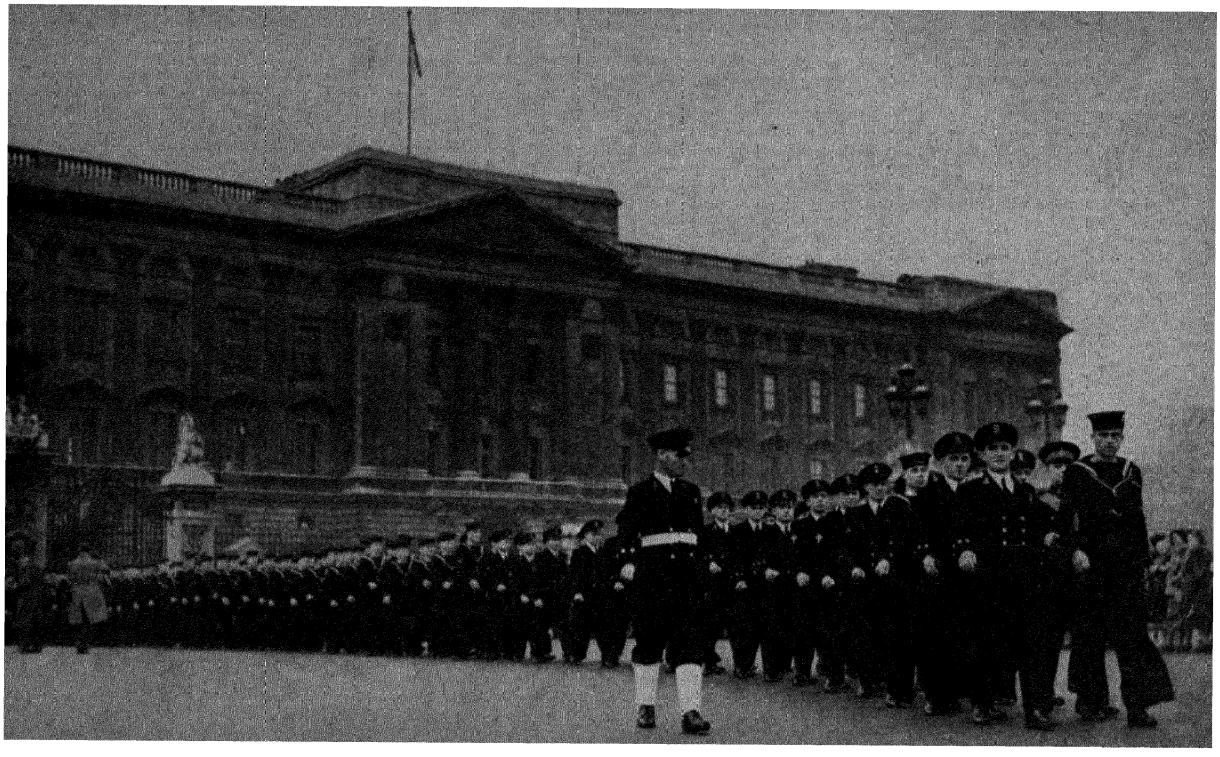
Grant-aided schools	England and Wales		Scotland		Northern Ireland	
	1938	1948	1938	1948	1938	1948
Primary and secondary	31,026	28,596	3,147	3,027	1,775	—
Pupils ('000)	5,548	5,460	769	764	205·6	207·3
Special schools*	611	559	63	85	—	—
Pupils ('000)	51	43	12	11	—	0·6
Further education establishments	—	7,248	—	—	—	96
Pupils ('000)	—	1,819	162	196	—	2·5
Full-time teachers, all schools	193,277	211,658	26,502	28,199	—	7,257

* Special schools provided education exclusively for children so physically or mentally handicapped as to be prevented from profiting fully from education in normal primary and secondary schools.

TABLE II.—UNIVERSITIES IN GREAT BRITAIN: STUDENTS AND STAFFS

Prewar figures include the universities of Aberdeen, Birmingham, Bristol, Cambridge, Durham, Edinburgh, Exeter, Glasgow, Leeds, Liverpool, London, Manchester, Nottingham, Oxford, Reading, St. Andrews, Sheffield, Southampton and Wales. Postwar figures cover also the university colleges of Hull and Leicester.

	1938-39	1943-44	1947-48
Full and part-time students:			
Men	49,202	33,270	73,501
Women	14,218	15,643	23,003



The ship's company of H.M.S. "Amethyst" and representatives of "London," "Consort," and "Black Swan" and of the Royal Air Force leaving Buckingham palace, London, after being received by the King on Nov. 17, 1949.

	1938-39	1943-44	1947-48
Full-time students:			
Men	38,368	22,449	59,065
Women	11,634	13,199	19,442
Full-time teaching staff:	3,994	—	6,536

Agriculture. Table III gives the estimated quantities of main crops in two prewar, two wartime peak and three postwar years.

TABLE III.—AGRICULTURAL PRODUCTION IN THE UNITED KINGDOM
(In '000 long tons)

	1938	1939	1943	1944	1947	1948	1949
Wheat	1,965	1,645	3,447	3,138	1,667	2,361	2,136
Barley	904	892	1,645	1,752	1,619	2,027	2,043
Oats	1,992	2,003	3,064	2,953	2,509	2,963	2,828
Rye	12	10	95	88	22	47	53
Mixed corn	75	73	394	349	386	518	640
Potatoes	5,115	5,218	9,822	9,096	7,766	11,798	8,861
Sugar beets	2,191	3,529	3,923	3,267	2,960	4,319	3,644

TABLE IV.—LIVESTOCK IN THE UNITED KINGDOM
(In '000 head at June in each year)

	1938	1939	1943	1944	1947	1948	1949
Cattle	8,762	8,872	9,259	9,501	9,567	9,806	10,229
Sheep	26,775	26,887	20,383	20,107	16,713	18,164	19,473
Pigs	4,383	4,394	1,829	1,867	1,628	2,151	2,811
Poultry	74,246	74,357	50,729	55,127	70,006	85,327	95,223

Sales of milk in the United Kingdom amounted to 1,249 million gal. in 1938, 1,378 in 1944, 1,618 in 1948 and 1,737 in 1949.

It was estimated that agricultural production in 1949 was about 30% above prewar. About 40% of Britain's food was home produced, compared with about 30% prewar. At the end of the year meat, bacon, fats, milk, cheese, eggs, sugar and tea continued to be rationed. An account of the payments made on the food subsidy was given by the chancellor of the exchequer on Nov. 3. He listed the annual rate of payments as follows (£ million):

To reduce the cost of imported food	183·5
To reduce the cost of home-grown food	211·3
To reduce the cost of imported feeding-stuffs	33·8
To reduce the cost of home-grown feeding-stuffs	2·9
Acreage payments	16·1
Fertilizers	15·0
Total	462·6

Fisheries. Landings of fish of British takings are given in Table V.

TABLE V.—BRITISH FISHERIES: TOTAL CATCH*

	1938	1943	1948	1949
England and Wales:				
Total catch ('000 long tons)	776·6	159·0	722·0	708·6
Total catch (£'000)	12,642	9,340	34,789	29,479
Scotland:				
Total catch ('000 long tons)	269·0	150·0	320·3	293·0
Total catch (£'000)	3,907	6,053	12,038	10,308

* Excluding shell fish, but including grey mullet and whitebait.

Industry. Number of industrial establishments with more than 10 employees (April 1948): 51,040. Distribution of total manpower in the years 1938, 1944 and 1948 (at June in each year) is given in Table VI.

TABLE VI.—EMPLOYMENT IN GREAT BRITAIN ('000)

	1938	1944	1948
Total working population	19,473	22,008	23,146*
Men	14,476	14,901	16,057
Women	4,997	7,107	7,089
Forces and Women's Services	385	4,967	846
Men	385	4,500	807
Women	—	467	39
Total in Civil Employment	17,378	16,967	21,926
Men	12,766	10,347	14 945
Women	4.612	6,620	6,981
Agriculture, Forestry, Fishing	949	1,048	1,268
Industries	8,716	9,062	10,776
Transport and Communication	1,225	1,237	1,814
Distributive Trades	2,882	1,927	2,689
Insurance, Banking, Finance	414	268	441
Public Administration:			
National Government Service	1,386	2,091	688
Local Government Service			766
Professional Services	1,806	1,334	1,341
Miscellaneous Services			2,143
Ex-servicemen not yet employed	—	20	92
Registered unemployed	1,710	54	282

* Including private indoor domestic servants and gainfully occupied persons over pensionable age (men 65, woman 60).

TABLE VII.—PRODUCTION OF FUEL AND POWER IN GREAT BRITAIN

	1938	1945	1947	1948	1949
Coal (million long tons)	226·99	182·78	197·44	209·40	215·12
Gas (million cu. ft.)	349,171	428,220	486,422	505,369	522·60
Electricity (million kwh.)	25,708	38,611	43,984	48,084	49,716

The total number of wage-earners in the coal-mining industry decreased from 782,000 in 1938 to 698,000 in 1941 and was 724,000 in 1948 The overall absenteeism which stood in 1938 at 6 44%, reached 16 31% in 1945, decreased to 11 64% in 1948—all percentages being weekly averages The average output in tons per manshift worked was 1 14 in 1938, 1 00 in 1945 and 1 11 in 1948

The indigenous petroleum production, which was 125,500 long tons in 1938 reached 257,300 tons in 1943 and decreased to 153,100 tons in 1948 This covered a very small percentage of national consumption In 1948 total production from petroleum refineries and distillation plants in Great Britain attained 3,838,400 tons of liquid products, including 1,753,200 tons of fuel oil and 617,100 of motor spirit. In addition, in the same year, a total of 3,497 4 million gal of refined petroleum were imported, including 1,303 6 million gal of fuel and Diesel oil and 1,224 1 million gal of motor and other spirit

TABLE VIII —PRODUCTION OF METALS IN GREAT BRITAIN
('000 tons)

	1938	1943	1945	1947	1948	1949
Steel	10,398	13,031	11,824	12,725	14,877	15,553
Virgin aluminium	23 0	55 7	31·9	28 9	30 0	29 0
Copper, refined	–	171 4	74·1	88 9	107 7	105·0
Virgin zinc	—	69 4	62 0	68 3	72 1	58 7
Lead, refined	–	15 7	13 5	32 1	36 2	32 9

The British steel industry in 1949 was operating at full capacity, the official target for output of crude steel in 1952 being 17 million long tons There were 99 pig iron furnaces in blast in 1938, 125 in 1940, 94 in 1947 and 102 in 1948. The consumption of iron ore in 1938 was 16 3 million tons, including 11 7 million tons home extracted, in 1948 the total consumption of iron ore amounted to 20 7 million tons, including 12 2 million tons home extracted There were 619 steel furnaces in existence in 1938, 820 in 1944 and 731 in 1948. The home consumption of non-ferrous metals generally greatly exceeded the home production and in 1948 was (in '000 long tons) aluminium 173 4; copper 356·8; zinc 223·2; lead 212 7

TABLE IX —TIMBER PRODUCTION AND CONSUMPTION IN THE UNITED KINGDOM

	1940	1943	1946	1949
Softwood ('000 standards)				
Total consumption	870·6	678 5	1,082 1	1,149·6
Home grown	161 4	248 9	94 2	63 0
Hardwood (million cu ft)				
Total consumption	47 6	58 1	61 3	81 5
Home grown	22 1	45 0	42 3	40 9
Pitwood ('000 standards)				
Total consumption	896·0	720 4	705 6	784 4
Home grown	597 5	720 6	337 8	193 4
Plywood (million sq ft)				
Total consumption .	167 3	121 0	408 8	340 8
Home produced .	52 4	68 0	68 3	73 3

TABLE X TEXTILES PRODUCTION AND CONSUMPTION IN THE UNITED KINGDOM

	1937	1945	1949
Raw cotton, consumption ('000 tons)	639	320	437
Single cotton yarn, prod (million lb)	1,233 8	597·1	821 6
Cotton waste yarn, prod (million lb)	124 0	66 9	96 7
Synthetic fibre, production (million lb)	148 4	138 4	288 7
Cotton woven cloth (million yd)	3,640	1,539	2,005
Wool, home production (million lb.)	66	58	50
Wool, home consumption (million lb)	-	331	626
Wool yarn production (million lb)	224 2	126 9	208 2
Woven wool fabrics (million yd)	316 7	193 1	282 9
Raw silk, consumption ('000 lb)	5,832	332	1,667

Textile output declined and export trade was sacrificed as labour was transferred from civilian industries to war production and to the fighting services. The cotton and wool industries emerged from World War II with a greatly depleted labour force and with plant equipment suffering from heavy arrears of maintenance and replacement, worst in the cotton industry because prewar difficulties had caused under-maintenance From 1945 substantial progress was made. In 1949 the cotton industry's production was about 30% higher than in 1945, while the quantity exported was 84% higher In the wool industry output also increased considerably and exports were about three times as much as in 1945, and substantially above prewar There was rapid expansion of the production of synthetic fibres (rayon, nylon, etc) both output and exports were by 1948 already considerably greater than prewar

Between 1938 and 1948 the production of the mechanical and electrical engineering industries increased by one-half and it was expected that by 1952 it would rise to about 70% above the 1938 level. By 1949 exports of all engineering products had risen to twice the level of 1938 and accounted for two-fifths of the United Kingdom's visible exports

Index numbers of industrial production. Statistical Office of the U N (1937 = 100), 1946 = 90, 1948 = 109, 1949 = 114; British Central Statistical office (1946 = 100), 1948 = 123. Oct. 1949 = 134.

Foreign Trade. In Table XI the value of the imports is expressed in c i f. (carriage, insurance, freight) prices and the value of exports in f o b (free on board) prices

TABLE XI —EXTERNAL TRADE OF THE UNITED KINGDOM

	1938	1945	1946	1947	1948	1949
Value (£ million).						
Imports	919 5	1,103 7	1,301 0	1,794 5	2,078·0	2,272·5
Exports	470 8	399 3	914 7	1,138·3	1,581 8	1,784 4
Re-exports	61·5	51 0	50 2	59 8	64 7	58 6
Volume index*.						
Total imports .	100 0	61 9	68 3	77 7	80·8	87 0
Total exports	100·0	45·8	99 3	108 7	136·3	151 0

* Quantities revalued at 1938 prices and expressed as a percentage of the value of imports or exports in 1938

Main commodities imported (per cent of total imports, 1949) food, drink and tobacco 42 7; raw materials and articles mainly unmanufactured 34 1, articles wholly or mainly manufactured 22·4, animals not for food and parcel post 0 8 Main commodities exported (per cent of total exports, 1949) articles wholly or mainly manufactured 87·5, food, drink and tobacco 5 5; raw materials and articles mainly unmanufactured 4 5, animals not for food and parcel post 2·5. Main sources of imports (1949, per cent of total imports) Canada 9 92, United States 9 76, Australia 9 35, New Zealand 5 15, India 4 32 Main destinations of exports (1949, per cent of total exports) Australia 10 27, Union of South Africa 6 80, India 6 37, Ireland 4 47, Canada 4 42, New Zealand 3 51, United States 3 40

Transport and Communications. Railways (1948) Great Britain, total first track (all gauges), 19,700 mi , Northern Ireland, 1,035 mi Rail transport (1948, Great Britain) 21,259 million passenger-mi , goods 21,457 million tons-mi Roads (1948) Great Britain, 183,659 mi

TABLE XII MOTOR VEHICLES LICENSED IN THE UNITED KINGDOM

	Great Britain Aug 31 1939	Great Britain Aug 31 1949	Northern Ireland Aug 31 1939	Northern Ireland Aug 31 1948
Total ('000) .	3,157	4,016	60 1	82 4
Private cars	2,034	2,107	42 9	41 7
Vehicles for public conveyance	97 9	138·1	2 1	3·2
Goods vehicles .	476 4	766 9	9 6	16 2
Agricultural tractors	32 0	262 2	1 1	13·8

TABLE XIII —UNITED KINGDOM AIRLINES

	1938	1945	1947	1949
Aircraft miles flown ('000)	13,220	28,031	39,522	44,121
Passengers carried ('000)	219	251	586	917
Passenger-mi flown ('000)	53,412	301,901	441,140	613,383
Freight carried (tons)	2,491	7,090	5,051	14,162
Freight carried ('000 ton-mi)	970	16,962	10,201	18,081
Mail carried (tons)	3,138	2,521	3,002	5,297
Mail carried ('000 ton-mi)	8,900	5,031	8,240	10,563

TABLE XIV MERCHANT VESSELS ON THE UNITED KINGDOM REGISTER

	Sept 3, 1939	Dec 1943	Dec 1945	Dec 1948	Dec 1949
All vessels ('000 tons gross)					
Non-tankers	14,313	9,899	10,726	12,721	12,953
Tankers	3,064	2,397	2,720	3,602	3,701
Vessels of 500-1,599 tons					
Non-tankers	861	576	606	629	647
Tankers	57	61	89	94	93
1,600 tons and over					
Non-tankers	13,452	9,323	10,120	12,092	12,306
Tankers	3,007	2,336	2,631	3,508	3,608

The total number of vessels (steam and motor) was 12,795 on Dec 31, 1948, as against 13,229 on Dec 31, 1938 Both totals included vessels under 500 gross tons, numbering 9,285 in 1948 as against 9,491 in 1938 The tonnage of the small vessels totalled 894,000 gross tons as against 1,011,000 in 1938 Shipping movement at United Kingdom ports ('000 net tons, 1948, 1938 figures in brackets) all vessels 63,396 (91,880), British vessels only 40,646 (49,976)

Number of telephones, private stations (Sept 30, 1949, in brackets, March 31, 1939) 5,043,465 (3,235,498) Wireless receiving sets licensed (Nov 30, 1949, in brackets, March 31, 1939) 11,900,200 (8,968,000) Television licences (Nov 1949, in brackets, Oct 1948) 206,700 (73,800)

Finance and Banking. Table XV gives the United Kingdom's postwar budget figures with the last prewar budget as a measure of comparison The fiscal year ends on March 31

TABLE XV —UNITED KINGDOM REVENUE AND EXPENDITURE (£ million)

	1938-39 actual	1945-46 actual	1946-47 actual	1947-48 actual	1948-49 actual	1949-50 est
Revenue	927 3	3,284·5	3,341 2	3,844 8	4,006 6	3,778
Expenditure	940 0	5,484 3	3,910 3	3,209 5	3,175 6	3,329
Surplus	−12 7	−2,199·8	−569 1	+635 3	+831 0	+449

National debt (£ million, Dec. 24, 1949, in brackets, March 31, 1939) 25,707 (7,130 8). Currency circulation (£ million, Dec 1949,

in brackets, 1938 average): 1,312 (446). Gold and dollar reserves of the sterling area (U.S.$ million; in brackets, £ million at £1 = $4·03): Dec. 31, 1945: 2,476 (610); Dec. 31, 1946: 2,696 (664); Dec. 31, 1947: 2,079 (512); Dec. 31, 1948: 1,856 (457); Dec. 31, 1949: 1,688 (416). At the time of the devaluation of the £ (Sept. 18, 1949) the gold and dollar reserves stood at $1,340 million or £330 million at the old rate of exchange. At the new rate of exchange (£1 = $2·80) the reserves at the end of the year represented £603 million. (K. SM.)

GREECE. A kingdom in the southern part of the Balkan peninsula. Area: 51,168 sq. mi. including the Dodecanese Islands (1,035 sq. mi.); the mainland accounts for 41,328 sq. mi. and the islands, the largest being Crete (3,235 sq. mi.), for 9,854. Greece covers an area slightly larger than that of England, but only one-fifth of the Greek land is cultivable, the rest being barren mountains or swamps. Pop.: (1928 census) 6,204,684 including 1,221,849 transferred from other countries, but mainly from Turkey (1,104,216); (Oct. 16, 1940 census) 7,344,860; (Dec. 31, 1949 est.) 7,960,000. Chief towns (1940 census, municipal area only): Athens (*q.v.*) (cap., 481,225); Piræus (205,404); Salonika or Thessaloniki (226,147); Patras (79,570); Volo (54,919). Languages (1940 census): Greek 6,794,308 (93%); Turkish (Turks and Turkish-speaking Greeks from Anatolia) 222,968; Macedonian Slav 81,860; Rumanian (Koutso-Vlachs) 57,263; Albanian 49,629; Bulgarian (Pomaks) 18,086, etc. Religions (1940 census): Greek Orthodox 7,090,192 (96·5%); Roman Catholic 29,136; Moslem 134,722; Jewish 53,094 (reduced to 9,000 by German executions). Ruler, King Paul I (*q.v.*); prime ministers in 1949, Themistocles Sophoulis (*see* OBITUARIES) and (from July 1) Alexandros Diomidis (*q.v.*); deputy prime minister and minister of foreign affairs, Konstantinos Tsaldaris (*q.v.*).

History. The early months of 1949 were marked by a deterioration of security in Greece, with the Communist rebels reaching the climax of their military effort. On Jan. 11, rebel forces captured the industrial town of Naoussa, in Macedonia, and held it for three days before being ejected by government troops. Many of the factories and other buildings of the town were destroyed by the retreating rebels, who also executed the mayor and many prominent citizens. This raid was followed on Jan. 20 by an attack on Karpenissi, in central Greece, which the rebels occupied for a fortnight before government troops recaptured it.

This proved to be the last success for the rebels. The appointment of General Alexandros Papagos (*q.v.*), Greece's wartime leader, as supreme commander of the Greek armed forces and the drastic changes which the new commander in chief enforced in army commands and military tactics resulted in the methodical liquidation of the rebel forces beginning with the Peloponese, which was cleared by the end of March, and culminating in the large-scale offensives of August-September in the last remaining strongholds of the rebels in the Mount Vitsi and Mount Grammos areas, on the Greco-Albanian frontier. By the middle of October all organized resistance on the part of the rebels had collapsed, and on Oct. 16 the rebel radio announced the "temporary cessation of hostilities." Casualty figures issued by the Greek general staff showed that, from June 1, 1946, when guerilla activities began, to March 31, 1949, the Greek army lost 10,927 killed, 23,251 wounded and 3,756 missing; casualties inflicted on the rebels during the same period totalled 70,028 (28,992 killed, 13,105 captured and 27,931 surrendered). Non-combatant casualties were 4,247, of whom 3,516 were executed by the rebels and 731 were killed by rebel-laid mines. Damage to property included many bridges blown up, over 11,000 houses destroyed and nearly 7,000 villages looted. Some 700,000 persons were obliged to abandon their farms and homes in rebel-infested parts of the country and seek refuge in safe areas, and over 28,000 were abducted by the rebels and removed to Communist countries north of Greece.

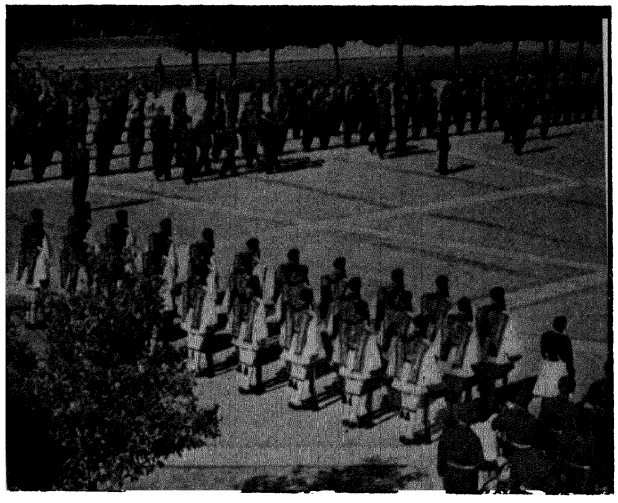


King Paul and Queen Frederika greet prizewinners at a sports meeting in Athens, July 1949.

In the domain of internal politics there were also several developments during 1949. The Liberal-Populist coalition government of Themistocles Sophoulis, which on Nov. 21, 1948, had obtained a vote of confidence by a majority of only 1, was obliged to resign on Jan. 15 after various attempts to broaden its basis had failed. Following a vigorous statement by the King that, unless a national government were formed at once, he would be obliged to seek "another solution," Sophoulis succeeded in forming a new government on Jan. 19, comprising not only the two main parties (Populist and Liberal) but also the Unionist party of Panayotis Kanellopoulos and the New party of Spyro Markezinis, with Alexander Diomidis, a non-party elder statesman, as deputy premier. Although this government obtained an overwhelming vote of confidence a fortnight later (245 to 50), it had a brief life; allegations against Markezinis led to its resignation on April 12 and the formation, two days later, of a new government which was identical with its predecessor, with the exception that the New party was excluded. This government remained in office until June 24 when the prime minister, 88-year-old Sophoulis, died. Attempts by K. Tsaldaris, leader of the Populist (majority) party in the Chamber of Deputies, to form a government having failed, the King entrusted Diomidis with the formation of a new government, which was sworn in on July 1. The new government was again a Populist-Liberal-Unionist coalition, with Diomidis as prime minister and the leaders of the Populist and Liberal parties, Tsaldaris and Sophocles Venizelos, as deputy prime ministers.

The Greek question again came up for discussion before the 4th general assembly of the United Nations in September-December. The U.N. Special Committee on the Balkans (U.N.S.C.O.B.) presented its report, covering the period Oct. 1948-July 1949, in which it was stated that continued Albanian and Bulgarian aid to the Greek rebels had made the situation a threat to the political independence and territorial integrity of Greece and to peace in the Balkans, and that both these countries had allowed the rebels "extensive use" of their territories and had actively campaigned for guerilla recruitment. The report added that Yugoslav aid had decreased and "may have ceased." (In a speech at Pola on July 10, Marshal Tito announced that the Yugoslav frontier with Greece would be closed.)

After a lengthy and acrimonious discussion, the general assembly adopted on Nov. 18, by 50 votes to 6 with 2 abstentions, a resolution naming Albania, Bulgaria and Rumania



The farewell parade of the first British troops to leave Greece—the 1st battalion of the East Surrey regiment—in Constitution square, Athens, Nov. 20, 1949.

as having actively assisted the Greek guerillas; calling upon Albania, Bulgaria and other states concerned to cease assistance to the guerillas, including the use of their territories as a base for armed action; and recommending to all states to: (1) refrain from action designed to assist any armed group fighting Greece; (2) refrain from direct or indirect provision of arms or other war materials to Albania and Bulgaria until U.N.S.C.O.B. or another competent U.N. organ determined that unlawful assistance by these states to the Greek guerillas had ceased; (3) take into account, in their relations with Albania and Bulgaria, the extent to which these countries abided by the recommendations of the general assembly in their relations with Greece. (*See* also MACEDONIAN PROBLEM.)

The resolution renewed U.N.S.C.O.B.'s mandate and called upon Albania, Bulgaria and Yugoslavia to co-operate with it. In addition, all states harbouring Greek nationals as a result of guerilla operations were called upon to facilitate the peaceful repatriation to Greece of those who desired to return and "live in accordance with the law of the land." Another resolution, adopted unanimously by the assembly, noted that Greek children removed by the rebels to other countries had not yet been returned to their homes (as unanimously recommended by the U.N. general assembly on Nov. 27, 1948) and urged all states harbouring Greek children to arrange for their speedy return to Greece.

A Conciliation commission set up on Sept. 29 under General Carlos Romulo, president of the U.N. general assembly, reported on Oct. 23 that its efforts had broken down, mainly owing to the insistence of the U.S.S.R. and Albania that the existing Greek-Albanian frontier should be regarded as permanent and that, in consequence, Greece should finally renounce her claims to northern Epirus.

On Oct. 31, Christopher Mayhew, the British under secretary for foreign affairs, announced in the House of Commons the impending withdrawal from Greece of the British troops who had been stationed there since the liberation, stressing that this withdrawal was decided upon in view of the improvement in the situation brought about by the victories of the Greek army and did not indicate any lessening of British interest in the security of the Greek people.

On Aug. 8, the committee of ministers of the Council of Europe, invited Greece to join the council and allotted her six representatives in the assembly.

On Aug. 31 Greece signed a reparations agreement with Italy, by virtue of which Italy would pay Greece $105 million in five yearly instalments by supplying agricultural and industrial products for which Greece would provide the raw materials.

In addition to her prime minister, Greece also lost two of her leading prelates during 1949. On May 20 the archbishop of Athens and primate of all Greece, Mgr. Damaskinos (*see* OBITUARIES) died of heart failure. The metropolitan of Jannina, Mgr. Spyridon, was elected on June 4 to succeed him. On Sept. 28 Archbishop Chrysanthos, whom Mgr. Damaskinos succeeded as archbishop of Athens in June 1941, also died of heart failure. (*See* also EASTERN ORTHODOX CHURCHES; ZAHARIADIS, NIKOLAOS.) (A. A. P.)

Education. (1947-48) Primary and infant schools 9,082, pupils 1,023,356, teachers 16,354; secondary schools 407, pupils 92,687, teachers 3,735; universities 2, students 7,330, professors and lecturers 294. Illiteracy (1940) 38%.

Agriculture and Fisheries. Main crops (in '000 metric tons, 1948; 1949 estimates in brackets): wheat 770 (650); barley 190; oats 110; rye 40 (30); potatoes 304; rice 9; maize 229; legumes (dry edible) 68; tobacco 37; cotton 36; must 380; table grapes 105; currants 78; sultana raisins 22; dry figs 23. Livestock (spring 1948, in '000 head): sheep 7,000; horses 240; donkeys 360; mules 148; bulls 700; buffaloes 59; goats 3,600; pigs 485; poultry 8,312. Sea fisheries: total catch (1948) 28,000 tons.

Industry. Persons employed in industry (Oct. 1948) 122,500. Raw materials (in metric tons, 1948): iron pyrites 14,805; baryta 18,706; bauxite 44,238; magnesite 11,610; emery 12,000; chrome ore 1,500; lead 1,834; zinc 5,712; pig lead 1,166; lead in sheets 254; caustic calcined magnesia 238; lignite 150,000.

Foreign Trade (Million U.S. dollars) 1947-48: imports 362, exports 96; 1948-49: imports 422, exports 90; 1949-50 (est.) imports 361, exports 92.

Transport and Communications. Roads (Dec. 1948) in good condition 3,666 mi. Licensed motor vehicles (Dec. 1948): cars 6,250, commercial vehicles 16,035. Railways (Dec. 1948): operating trackage 1,328 mi. Shipping (March 1948): under Greek flag, merchant vessels 601, tonnage 1,286,161; under foreign flag (mainly Panamanian), merchant vessels 246, tonnage 1,362,827.

Finance. (Million drachmae) Budget: (1948-49 revised estimates) revenue 3,486,000, expenditure 4,319,000. Foreign aid to Greece since the liberation to Jan. 1949: U.N.R.R.A., $347·2 million; Import and Export bank $38 million; United Kingdom £60 million; United States $465 million. Currency circulation (million drachmae, July 1949; in brackets, July 1948): 1,292,000 (1,046,000). Monetary unit: *drachma* with an exchange rate (from Sept. 20; in brackets previous rate) of 42,000 (32,000) drachmas to the pound and 15,000 (10,000) to the dollar.

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GREENLAND. A large island (839,782 sq. mi., about 705,000 sq, mi. covered by an ice cap) and a Danish possession in the north Atlantic ocean northwest of Iceland. Capital: Godthaab (second governor's seat, Godhavn). Pop. (Oct. 1, 1945 census): 21,384 distributed in small settlements along the west and south coasts, except for 1,371 on the east coast; 569 were Europeans (mostly Danes), the rest native Greenlanders (Eskimos). Language: Danish and Eskimo. Religion: Lutheran Christian. Governors in 1949, C. F. Simony and N.O. Christensen.

History. At the centenary of the Danish constitution, June 5, a representative of Greenland was among those who addressed a joint meeting of the two houses of parliament in Copenhagen. During 1949 the Greenland commission deliberated the proposed administrative and economic changes in the existing regime through various sub-committees, and visited Greenland in the summer. Extended access to the country, but in controlled forms, was expected to result. Meanwhile tourists were increasingly encouraged; the administration's guest-houses in Godthaab and Egedesminde could each accommodate 30 visitors.

Before the Danish foreign minister signed the North Atlantic treaty he was assured in Washington that U.S.

bases in Greenland would neither be enlarged nor increased in number, and that in future such questions would be reviewed by all the signatory powers in consultation.

The Danish government voted Kr. 850,000 for the detailed examination of the E. Greenland lead deposits discovered by Dr. Lauge Koch, who revisited the area with about 80 assistants, 30 remaining there for the winter. Several radioactive slate beds were found. Over 20 meteorological stations, reconstructed on the broader basis established by the U.S. in wartime, were by 1949 manned by 90 Danes and 40 Greenlanders; over 30 Greenland telegraphists had already graduated from the local training school. During the summer a group of scientists, technicians and workers were to start building a slaughter-house, canning factory and freezing plant.

In July 1949 a French expedition of 20 men with 5 snow vehicles reached the site of the central Greenland station occupied in 1930-31 by Alfred Wegener's ill-fated expedition.

Education. (1948) Centres for instruction 175, pupils 4,200, teachers 237; post-primary schools 4, pupils 100, teachers 15, technical school 1, pupils 50, teachers 2; institutions of higher education 2, students 45, lecturers 10. A few old persons still illiterate

Agriculture and Fisheries. Livestock (Nov. 1, 1947) cattle 90, sheep 21,337, pigs 9, horses 94, poultry 1,596. Total catch of fish (1948) 20,000 tons, worth c Kr. 14 million

Industry. (1948) Industrial establishments 8, with c 400 persons employed Cryolite exported (1947) 40,358 metric tons, coal (1940-45 average) 6,500 metric tons

Foreign Trade. (1948) Imports Kr. 16,663,000, exports Kr. 12,071,000 Main imports wooden products, cereals, food of animal origin, textiles, tobacco, coffee and petrol Main exports: cryolite, salted and dried fish and whale fat.

Transport and Communications Motor vehicles licensed (Jan 1949) cars 26, lorries 47 Merchant vessels on Denmark-Greenland run 7 (6,146 tons), in Greenland coastal traffic 14 (1,360 tons). Wireless licences: (April 1, 1948); 700

Finance and Banking. ('000 Kroner) Budget: (1949 50 est. revenue) 11,760; expenditure 19,375, (1950-51 est) revenue 16,535, expenditure 23,772. Currency circulation (Dec. 1949) 2,700 Savings and bank deposits: 2,800 Monetary unit the Danish *krone*, with an exchange rate of Kr 19·34 to the pound sterling.

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(E. J. L.)

GRENADA: *see* WINDWARD ISLANDS.

GREYHOUND RACING. Taxation of totalizator receipts (10%) at British greyhound racing tracks in 1949 gave an estimated £9 million to the exchequer, despite a 15% decline in tote betting on 1948 caused by a normal recession from the boom years of 1945-6. Breeders in Britain and Ireland returned to prewar discrimination in the use of stock. Promoters made the photo-finish general at the National Greyhound Racing society's 76 racecourses (there were some 110 independent tracks). Two tracks introduced automatic starting release of the starting box and experiments were made on automatic control of the dummy hare. The year was notable, too, for an increased interest taken by British owners and trainers in the sport in the United States, Holland, Italy and Australia. But currency restrictions stopped any considerable export of British- or Irish-bred greyhounds. Ireland once again supplied Britain with greyhounds, valued at £900,000.

The Greyhound Derby (525 yd., White city, London), the year's chief race, was won by W. J. Reid's English-bred bitch, Narrogar Ann. Open races, on which private trainers depend almost entirely, were some 300 fewer than in 1948, many of these events having to be cancelled through lack of entries, particularly in the north. The Anglo-Irish International race was run at Shelbourne park, Dublin. The winner was Lone Train, a two-year-old bred and trained in Belfast. Other important winners were: Ballymac Ball (Laurels); Local Interprize (Gold Collar); Blossom of Annagurra (Grand National); Eastern Madness (Steward's cup); Spanish Lad (Irish Derby); Mutton Star (Olympic); Burndennet Brook (Scurry cup); Behattan Marquis (Northern flat championship); Flashy Prince (Easter cup). (J. A. Rs.)

GROTEWOHL, OTTO, German politician (b. Brunswick, 1894). A printer by trade, he joined the S.P.D. (Sozialdemokratische Partei Deutschlands) after World War I, was a member of the Brunswick Landtag 1920-25, Brunswick minister of the interior and education 1921-22, and of the interior and justice 1923-24. From 1925 to 1933 he was a member of the Reichstag. In 1933 he was arrested and sent to a concentration camp. When in June 1945 the S.P.D. was re-organized he was elected leader of the party in the Soviet zone of Germany and member of the central executive committee. He accepted the idea of a merger between the S.P.D. and the K.P.D. (Kommunistische Partei Deutschlands) which was mooted by the political advisers to the Soviet military administration; and when, in April 1946, the merger took place in the Soviet zone he was elected one of the chairmen of the resultant S.E.D. (Sozialistische Einheitspartei Deutschlands), the other being the Communist leader Wilhelm Pieck (*q.v.*); he also became one of the nine members of the Politburo of the S E.D When the Russians decided to organize a people's republic in their zone of Germany, Grotewohl was appointed prime minister of the east German government and on Oct. 12 presented his cabinet to the Volkskammer (lower house). At the end of December it was announced that he had been ill for several weeks and had left to convalesce at a south Soviet spa.

GRUBER, KARL, Austrian statesman (b. Innsbruck, Tirol, May 3, 1909). After reading law at the University of Innsbruck he completed his legal studies in Vienna, taking his degree of doctor of laws in 1936. He had entered government service in 1934, in the postal administration Beginning in the Youth group of the Social Democratic party he transferred his allegiance, in 1934, and soon became prominent in the Christian Social trade union movement, as well as in Catholic student activities. His opposition both to the *Heimwehr* and to the Nazis during the period before the *Anschluss* brought about his dismissal from office in 1938. He then went to Berlin and secured a post with an industrial concern, at the same time organizing with other Austrians a clandestine Austrian resistance movement. During World War II he contrived to keep in touch with his friends in the Tirol and with the Allies and early in 1945 he returned to his native land, becoming head of the executive committee of the Tirolean resistance movement. He was chosen to be provincial governor for the Tirol in June 1945 and was a delegate to the first congress of the provinces in Vienna in September. Dr. Karl Renner gave him the post of under secretary of foreign affairs in his provisional government and on Dec. 19, 1945, he took office as minister of foreign affairs in the Leopold Figl cabinet, being the youngest foreign minister of any European country On Nov. 25, 1945, and on Oct. 9, 1949, he was elected as a People's party deputy for the Tirol. (W. H. CTR.)

GUADELOUPE: *see* FRENCH UNION.

GUAM: *see* UNITED STATES TERRITORIES AND POSSESSIONS.

GUATEMALA. A Central American republic bounded on the W. and N. by Mexico, on the E. by British Honduras, the Caribbean sea, Honduras and El Salvador, and on the S. by the Pacific ocean. Area: 45,452 sq. mi. Pop. (mid-1948 est.), 3,717,000 including almost two-thirds of pure Indians descending from Maya or Quiché strains, one-third of mixed Indian and Spanish (ladinos) and Indian

and Negro blood, the balance of about 1% being white. Chief towns: Guatemala city (cap., pop., 1946 est., 225,000); Quezaltenango (pop., 1940 census, 33,538); Puerto Barrios (pop., 1940 census, 15,784). Language: Spanish, but unknown to hundreds of thousands speaking only Indian dialects (numbering at least 18). Religion: predominantly Roman Catholic. President, Juan José Arévalo.

History. The continued minority resistance to the leftist administration of President Arévalo was emphasized in 1949 by two abortive revolts. The first uprising (described by the government as mere banditry) occurred April 7, when 200 armed men seized five towns near the Mexican border and sacked the customs offices. Government troops regained the towns within two days and most of the insurrectionists were either killed or captured. A more important revolt (the 20th since Arévalo took office in 1945) began on July 18. It was apparently set off by the assassination of Colonel Francisco Javier Arana, chief of the armed forces and potential successor of Arévalo. The Guardia de Honor garrison rebelled but was subdued within 24 hours, after the loss of 50 lives. Labour unions, student organizations and large numbers of other civilians aligned themselves with the government during the crisis. The administration denied rumours that Colonel Arana had been plotting a coup and implied that he was assassinated by " reactionaries " for having refused to lead an insurrection. In December a military court sentenced 14 of the accused insurgents to from two to ten years' imprisonment.

Rainstorms in September and October resulted in great loss of life and caused property damage amounting to about $23 million. The government issued $2 million in bonds to finance emergency rehabilitation and relief.

The slowdown strike of United Fruit company wharf workers at Puerto Barrios and banana harvesters in Tiquizate reached a crisis in February when the company suspended its activities, leaving 10,000 unemployed and paralysing shipping at the chief Pacific port for several weeks. The conflict was settled on March 7 through government mediation, the workers being awarded wage increases and a collective contract. In September the United Fruit company announced its abandonment of more than 50,000 ac. of banana plantations, because of plant disease.

Education. Schools (1946) elementary 4,425, teachers 8,266, pupils 225,362, secondary 45, teachers 819, pupils 5,494, University of San Carlos, students 1,719, four other establishments of higher education, students 773 The 1948-49 budget allocated $6 3 million for public education.

Foreign Trade. Exports for 1948 amounted to $50 million including gold and silver, imports were valued at $68 million More than three-fourths of the trade was with the United States. Leading exports in 1947 coffee, bananas, cabinet woods, cinchona bark, cattle hides, essential oils and rice. The exportable coffee crop for the 1949-50 season was estimated at 750,000 bags (910,000 in 1948-49)

Communications. Railways (1947) 817,477 mi. Of the 4,800 mi of highways in 1945, 2,400 were improved. There were about 8,500 automobiles and trucks registered in 1948.

Finance. The monetary unit is the *quetzal*, maintained at par with the U S. dollar. Budget (1949-50 est) provided for expenditures of $41·5 million, a $10 million reduction from the final 1948-49 figure. As at March 31, 1948, the public debt was $847,700, external, $3 million internal (M. L. M.)

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GUIANA, BRITISH: *see* BRITISH GUIANA.

GUIANA, DUTCH (Surinam): *see* NETHERLANDS OVERSEAS TERRITORIES.

GUIANA, FRENCH: *see* FRENCH UNION.

GUINEA: *see* FRENCH UNION; PORTUGUESE COLONIAL EMPIRE; SPANISH COLONIAL EMPIRE.

GÜNALTAY, SEMSETTIN, Turkish statesman (b. Eğin, 1883), studied at the University of Lausanne, where he graduated in natural science. He had been an active member of the Union and Progress party and after the 1908 revolution published a series of books of historical interest, in which he urged a thorough reform of Islam. He lived many years abroad. On his return to Turkey, he was appointed in 1915 to the chair of Turkish history and of the history of the Islamic races at the University of Istanbul He was elected deputy for Bilecik to the Ottoman Chamber of Deputies, and represented his constituency until the abolition of the chamber. During the Turkish war of independence, he played an active part in the Istanbul organization of the Nationalist forces, and in 1925 was elected deputy for Sivas to the Grand National Assembly in Ankara, assuming at the same time the professorship of Turkish history at the universities of Ankara and Istanbul. Appointed vice-president of the Grand National Assembly in 1938, and vice-president of the parliamentary group of the Republican People's party in 1946, he became prime minister on Jan. 16, 1949. Speaking at Izmir on Nov. 7, he said that Turkey formed a bridge between struggling worlds and must have recourse to all means for its defence.

GUSTAF V (OSCAR-GUSTAF-ADOLF), King of Sweden (b. Drottningsholm castle, June 16, 1858), succeeded his father Oscar II on Dec. 8, 1907. (For his early life see *Encyclopædia Britannica* and *Britannica Book of the Year, 1949*).

Suffering from bronchitis, King Gustaf was carried to the Riksdag on a stretcher when he opened the new parliamentary session on Jan. 11, 1949, but was able to walk to the throne supported by Crown Prince Gustaf Adolf. In March he left for France; his health was so much improved by a two months' stay on the French riviera that on July 10 he enjoyed a swim in the Kattegatt at Saeroe. In September he again fell ill but recovered and on Oct. 10 was able to open new premises of the Supreme Court. In December, however, he was too weak to attend the Nobel festival and the prizes were given to the winners by the Crown Prince.

GYMNASTICS. The Olympic Games of 1948 gave a great impetus to the general interest in gymnastics in Great Britain; it was most marked in 1949 in the championships and competitions and in the response to the revised scheme for the training of coaches.

The national championships were won as follows: men's individual, F. C. Turner; women's individual, M. Hurst; women's gym team, Saltaire ladies' club; men's physical training team, Woodhouse club, Leeds; and women's physical training team, Saltaire ladies' club. The English champion, F. C. Turner, represented England at the international gymnastic tournament held at Ostend, Belgium, in August.

The first inter-branch competition for men's and women's teams was held during the year. The men's contest was won by Wales; the northern counties won the women's events.

The second international Lingiad opened in Stockholm on July 27. More than 15,000 gymnasts from 17 countries took part. The first Lingiad was held in Aug. 1939 to celebrate the 100th anniversary of the death of Per Henrik Ling, founder of the Swedish system of physical exercises. (L. N.)

GYNÆCOLOGY AND OBSTETRICS. The twelfth British Congress of Obstetrics and Gynæcology held in London during 1949 was mainly devoted to reviews of the state of various aspects of these subjects. Sir William Gilliatt described the remarkable decline in maternal mortality during the previous 15 years. In the years under consideration maternal mortality in Great Britain and the U.S.

fell to less than one-fourth of what it had been; analysis of figures under individual causes of death showed that puerperal and post-abortal sepsis, which used to be by far the greatest factor, had dropped to one-sixteenth of what it had been in the early '30s, and toxæmias to about one-fourth. However, there was still no major advance of knowledge of the causes and treatment of toxæmias. It was agreed, too, that hæmorrhage was still a menacing component of the death rate, despite greatly increased facilities for blood transfusion.

Percy Stocks pointed out, in a review of progress illustrated by vital statistics, that the stillbirth and neonatal death rates in Great Britain had fallen by 40% in 20 years and the infant mortality rate by 59%, so that it was now no longer true that the decline in infant mortality round about birth was lagging very much behind the improvement in later infancy. Nevertheless, birth trauma as a cause of death was relatively very high and prematurity still a major factor.

The value of vaginal cytological methods for the study of the epithelium of the upper genital tract was well established, although their limitations were also better known. It was now realized that cancer of the genital tract was a disease with a long preclinical and preinvasive course, often detectable by these cytological methods and therefore remediable in its early stages by relatively minor surgery with an accompanying lower operative mortality. The confessions of American and British gynæcologists that the technique of radical surgery should be revived to play a far larger part in the treatment of cancer of the cervix uteri, now that radiosensitivity or radio-resistance of tumours could be assessed with some certainty and cases could be more accurately selected for surgery or irradiation, were remarkable.

H. Braunschweig (U.S.) and his imitators achieved the survival for months and years in comparative comfort of patients subjected to exenteration for recurrent or widespread cancer of the pelvic organs.

It was stressed by H. Barns that diabetes in pregnancy was still taking an enormous toll of fœtal life—55% in his series—although the immediate and remote prognosis for the mother was excellent. J. A. L. Gilbert and D. M. Dunlop in Edinburgh showed, in addition, that the overall fœtal loss rate in the pre-diabetic pregnancies was as high as twice the non-diabetic control rate; the maximal pre-diabetic fœtal loss rate occurring in the two years immediately before the diagnosis of diabetes was made was then six times the control rate. The good results claimed by P. White in 1947 for hormone therapy in diabetic pregnancies had not as yet been repeated in any large scale trial. Nor, as yet, had there been any reported adequate repetition of the work of O. W. and G. V. S. Smith, reported in 1948, on the successful treatment with stilbœstrol of habitual abortion and its familiar development, toxæmia of pregnancy.

G. M. Bull and his colleagues elaborated the conservative treatment of anuric uræmia, by which a large proportion of these desperately ill patients recovered completely. Since the greatest number of their cases were of mismatched blood transfusion after delivery or miscarriage, or of post-abortal shock or sepsis, or of poisoning by abortefacient drugs, his methods—dietetic control and control of water balance—should be of greatest interest to obstetricians and gynæcologists. The use of the newer anti-histaminic drugs to control vomiting of early pregnancy was now well established.

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HAAKON VII (CHRISTIAN-FREDERIK-KARL-GEORG-WALDEMAR-AXEL) King of Norway (b. Charlottenlund, Denmark, Aug. 3, 1872), was elected King by the Norwegian Storting on Nov. 18, 1905. (For his early life see *Encyclopædia Britannica* and *Britannica Book of the Year 1949*).

On June 7, 1949, he entertained at Oslo Admiral Sir Rhoderick McGrigor, who commanded the British 1st cruiser squadron which, four years before, brought him back to his capital. On Aug. 3, celebrating his 77th birthday, he returned to Oslo from a trip in the royal yacht "Norge"—bought by the Norwegian people as a gift to the King on his birthday. He spent the day quietly with the family at Bydgoe Kongsgaard, his estate on the outskirts of the capital.

HAILE-SELASSIE I, emperor of Ethiopia (b. Harar, July 17, 1891), ascended the throne on Nov. 2, 1930. (For his early life see *Encyclopædia Britannica* and *Britannica Book of the Year, 1949*).

During 1949 the Emperor made his accustomed public appearances, notably at the festivals of *Timqat* (Epiphany) and *Masqal* (Invention of the Cross). He attended a garden party at the British institute; distributed the prizes for Addis Ababa schools on his birthday and re-opened the Commercial and Agricultural exhibition. Outside Addis Ababa he visited Ambo, Nazareth (Adama) and district, Ogaden (for the "spudding-in," on May 20, of the first oil-well), the Blue Nile (to inaugurate a new bridge), and Harar. He was awarded the honorary degree of doctor of law of Wheaton college, Illinois, U.S.

HAITI. A West Indian republic forming the western third of the island of Haiti or Hispaniola. Area: 10,748 sq. mi. Pop. (1947 est.): 3,550,000, of whom 95% are Negro and the remainder—the ruling class—almost exclusively mulatto. Port-au-Prince (pop. est. 125,000) is the capital. French is the official language, although a patois called *créole* is widely spoken. Roman Catholicism is the official religion, while voodooism is practised on a large scale in rural areas. President of the republic, Dumarsais Estimé.

History. The Estimé administration remained in power throughout the year, notwithstanding disaffection among some military officers, student disorders and efforts to bring about a general strike, which led to vigorous measures in mid-November. An amnesty, however, was proclaimed on Nov. 30. Friendly relations with Cuba were stressed, while those with the Dominican Republic became more tense in the closing months of the year.

In 1949, systematic efforts were made to introduce more advanced agricultural methods. Exports rose sharply (in value) during the summer, when normally they decline, because of the brisk demand for coffee. On Dec. 24, the trade agreement with the United States was put into effect, the first of the bilateral agreements concluded by the U.S. under the general agreement of Annecy. It provided for a reduction in U.S. tariff rates on Haitian rum, and other Haitian products. A loan of $4 million from the Export-Import bank was virtually negotiated before the year ended. Canals irrigating about 30,000 ac. in the valley of the Antibonite river were opened in December. (C. McG.)

Education. Schools (1949): primary, pupils 87,000, secondary, 6 national *lycées* and 15 private institutions with a total of 10,000 pupils. There is a national University of Haiti.

Agriculture. Coffee is the chief crop· 483,509 bags (of 132 lb) were exported in 1948-49. Sisal, the second crop, had grown rapidly in importance: 25,870 metric tons were exported in 1947-48. In 1948, 41,950 metric tons of sugar and 2·4 million gal of molasses were produced. Livestock (1945) included 200,250 cattle, 13,800 sheep and over 1 million goats.

Foreign Trade. (Oct 1, 1947-Sept. 30, 1948) Exports U S.$30,884,927; imports $32,208,543. The U.S. supplied 82% of the imports and took 60% of the exports.

Transport and Communications. Roads (Jan. 1, 1949)· about 2,000 mi. including 235 mi surfaced; there were 3,880 registered motor vehicles. Railways: state, 88 mi ; Haitian-American Sugar Co., 75 mi.

Finance. The monetary unit is the *gourde*, officially fixed at 20 U.S. cents. Budget (1949-50 est.): balanced at 73·2 million gourdes. Official exchange rates: £1=G.20·15 and (after Sept. 18, 1949) £1=G.14·00.

HARBOURS: *see* DOCKS AND HARBOURS.

HAWAII: *see* UNITED STATES TERRITORIES AND POSSESSIONS.

HEART DISEASES. The year 1949 was notable for the emergence of steroid chemistry from the laboratory into clinical research. The role of the adrenal corticoids in dramatically affecting the course of rheumatoid arthritis was reported by P. S. Hench and his associates of the Mayo clinic at Rochester, Minnesota, who also reported a beneficial effect in rheumatic fever with carditis. The preparations used were Compound E (officially named Cortisone—17-Hydroxy-11-Dehydrocorticosterone) and the pituitary adrenocorticotropic hormone (ACTH). Whether or not these hormones merely produce remissions in diseases characterized by spontaneous cycles was not yet known but they or related steroids might furnish important preventive therapy of rheumatic heart disease when administered early in the course of rheumatic fever.

The role of the adrenal and of adrenal tumours in hypertension was actively studied. Benzodioxane and dibenamine, which temporarily depress the blood pressure, were found useful in the diagnosis of such tumours by blocking the effect of excess adrenalin produced by the tumour. The artificial kidney, through which it was possible to perfuse a patient's blood outside the body, permitted direct study of humoural pressor mechanisms in hypertension. Purified fractions of veratrum alkaloids (protoveratrine) were shown to have remarkable but temporary hypotensive effects in patients with high blood pressure.

The mechanisms involved in coronary atherosclerosis were investigated in many laboratories. A striking incidence of premature coronary disease was demonstrated in families in whom hypercholesteremia was an inherited trait. In the treatment of acute myocardial infarction (loss of blood supply to a portion of heart muscle through blocking of a coronary blood vessel by a clot) controlled studies showed the advisability of the use of anticoagulants (dicoumarol and heparin) in preventing thrombo-embolic complications.

Surgery of the heart was extended to include the junction of pulmonary and azygos veins in patients with contraction of the mitral valve without pronounced cardiac enlargement or increased peripheral venous pressure but with attacks of œdema of the lungs (a condition often characterized by the collection of fluid in the pleural cavities). Plastic operations for the repair of contracted mitral valves were attempted with some success by various surgeons. An "artificial heart" or cardiopulmonary machine was described by V. O. Björk from Crafoord's laboratory in Sweden permitting bloodless operations on the heart in animals, and experimental repair of cardiac valves by venous and pericardial grafts were reported by J. Y. Templeton III and J. H. Gibbons, Jr.

The antibiotics aureomycin and streptomycin were found effective in certain cases of bacterial endocarditis. In the treatment of congestive heart failure, Thiomerin, a mercurial diuretic which could be given subcutaneously was introduced; cationic exchange resins added to diets were successful in removing ingested sodium and aiding diuresis; lithium salts as seasoning substitutes for sodium chloride were found dangerous. (H. B. S.)

HEMP. The hemp trade in the United Kingdom was de-controlled in 1949; but devaluation of the pound and other currencies and a slackening in demand prevented improvement in the trade.

The high value of the Philippine currency made it extremely difficult for countries in the sterling area and for "soft-currency" countries to buy Manila hemp. Therefore, the main commodities used by hemp spinners were Italian soft hemp and East African sisal, the principal hard fibre.

The Italian crop in 1949 was about the same as in 1948 but better in quality. The yield per acre was lower than in 1948 owing to bad weather conditions in most areas. A larger acreage made up the deficiency in the yield. Exports both to Western Germany and to Great Britain increased.

Nevertheless, hemp supplies for the British industry were still insufficient, especially in Manila hemp; but great progress was made in manufacturing cordage from other fibres.

The price level of hemp in world markets during 1948 and the beginning of 1949 was relatively higher than that of other textile fibres and the British government continued to supply sisal to British spinners at a fixed price, lower than world parity. The United States government acquired during that period 14,000 tons of East African sisal for stockpiling purposes but the U.S. industry itself purchased less in 1948 than during 1947.

Under the European Recovery Programme the O.E.E.C. allocated a sum of $14 million for purchases by France, Belgium, Denmark, Germany, Italy, the Netherlands and Norway of hard fibres from the Philippines and other Latin American countries during the period from April 1948 to March 1949. (G. Hs.)

HESS, WALTER RUDOLF, Swiss eye and brain specialist (b. Frauenfeld, Switzerland, March 17, 1881), was educated at the universities of Lausanne, Berne, Kiel, Berlin and Zurich and obtained his doctorate of medicine in 1906. From 1917 he was director of the Institute of Physiology at Zurich university and from 1931 to 1936 was also director of the scientific station, Jungfraujoch. In Aug. 1938 he presided over the 16th International Congress of Physiology which was held that year in Zürich. On Oct. 27, 1949, it was announced he had been awarded, jointly with Professor A. E. Moniz (*q.v.*), the 1949 Nobel prize for physiology and medicine for his discovery of the functional organization of the middle brain in co-ordinating the activity of the internal organs.

HEUSS, THEODOR, German statesman (b. Brackenheim, Württemberg, Jan. 31, 1884), studied at the universities of Munich and Berlin and in 1905 obtained his doctor's degree in political science at Munich. He joined the editorial board of Friedrich Naumann's Liberal weekly *Die Hilfe* (1905-12) and later was the editor of the *Neckar-Zeitung* at Heilbronn (1912-18). In 1920 he was appointed as lecturer at the newly founded democratic German Political high school in Berlin. He joined the Democratic party and was elected a member of the Reichstag in 1924. He failed at the election of 1928 but was re-elected in 1930, twice in 1932 and on March 5, 1933. With all other members of the Reichstag, Social Democrats excepted, he voted in favour of giving Hitler full powers on March 23, 1933. Soon afterwards his 20 books (including *Hitler's Way*, published in 1932) were among those which were publicly burnt in Berlin. After the dissolution of the Reichstag in Oct. 1933 Dr. Heuss went to Heidelberg where he edited *Die Hilfe* until its suppression in 1936. After the capitulation of Germany in 1945 he obtained from the U.S. military government the licence to publish the *Rhein-Neckar-Zeitung* in Heidelberg. In 1948 he was elected chairman of the F.D.P. (Freie Demokratische Partei), and he was a member of the Parliamentary council in Bonn (Sept. 1, 1948-May 23, 1949) that drew up a constitution for Western Germany. On Sept. 12, 1949, he was

elected first federal president of the German federal republic; on the second ballot he received 416 of the total 804 votes cast in the Federal Assembly, the Social Democrat candidate, Dr. Kurt Schumacher, gaining 312.

HIRE PURCHASE: *see* CONSUMER CREDIT.

HIROHITO, emperor of Japan (b. Tokyo, April 29, 1901), succeeded his father on Dec. 25, 1926. (For his early life see *Encyclopædia Britannica* and *Britannica Book of the Year 1949.*)

In Jan. 1949 it was disclosed that the U.S. joint chiefs of staff had given General Douglas MacArthur secret orders that Emperor Hirohito should not be prosecuted on any war crime charges. It was also disclosed that all Japan's World War II enemies, including the U.S S.R., had agreed in 1945 to exempt Hirohito in order to facilitate Japan's surrender and occupation. However, Sir William Webb of Australia, who presided at the Japanese war crimes trials, asserted that Hirohito should be tried. In Sept. 1949 it was disclosed that Hirohito had written a book about one of his hobbies, the study of deep-sea life; the volume was reported to be on the subject of sea horses.

HISTORICAL RESEARCH. In the western world the slow process of bringing together again historical scholars continued in 1949 despite all difficulties. The International Committee of Historical Sciences was re-established in new quarters in Paris and through its national committees organized successful conferences at Oxford, Paris and Rome. Publication of the 1947 volume of the *International Bibliography of Historical Sciences* (Paris) was announced—the first to be issued since the 1938 volume. Another prewar organization, the International Institute of Political and Constitutional History, resumed its activities in Paris and held a plenary session at the Sorbonne in the spring. The institute's journal, the *Revue d'histoire politique et constitutionelle*, also re-appeared. French historiography as a whole was thriving, with the issue of important monographs in many fields, as well as useful bibliographies and guides to manuscripts. An outstanding work was R. Doucet's masterly study of *Les Institutions de la France au XVIe siècle* (Paris). For more recent history the *Actes du Congrès historique du centenaire de la Révolution de 1848* (Paris; Presses universitaires de France) contained some striking papers read at the celebration in 1948.

Over the border in occupied Germany the picture was not so rosy. Yet here too, despite the loss, displacement or removal of so many German archives, a new periodical devoted to the science started at Düsseldorf: *Der Archivar*, successor to the prewar *Archivalische Zeitschrift*. Even more significant, the great *Historische Zeitschrift* came out again in two thick numbers, the first to appear since 1943. Under the editorship of Walter Holtzmann and Gerhard Ritter a comprehensive bibliography of German historical studies during and after World War II was prepared. In Austria the Staats Archiv in Vienna was showing renewed activity with its new periodical, the *Mitteilungen des österreichisches Archivs*, entering on its second year. Among other publications of value to students of palæography and history was a well-produced selection entitled *1,100 Jahre österr. und europ. Geschichte in Urkunden und Dokumenten des Haus-, Hof- und Staatsarchiv.* Italy was slower in recovering but began to publish at Rome, under the editorship of F. Chabod and others, a series of source-books for the period 1860 to 1943. In Spain and Portugal, notably at Seville and Coimbra, scholars were finding escape from modern politics in the editing of mediaeval texts. At the other end of Europe, amid a wealth of propaganda masquerading as history, a few writers of integrity sought to maintain objectivity in such journals as the *Revue d'histoire comparée*, issued by the Danubian institute at Budapest, and the *Annales d'histoire du droit*, an excellent new Polish periodical published at Poznań. In the U.S.S.R. the five-year plan for historical studies entered its fourth year a long way behind schedule. This was not surprising as the scheme launched in 1946 aimed at nothing less than the re-writing of the history of the world according to strict Marxist-Leninist principles. Among the works of international interest issued in 1949 were V. F. Semyonov's *Enclosures and peasant movements in England in the 16th century.* A valuable new source for European history was a selection of documents from Russian military archives on the *Seven Years War, 1756-63*, edited by N. H. Koroskov. Rather more suspect was the selection of *Documents and materials relating to the Eve of the Second World War, 1937-39*, vols. 1 and 2 (English trans., London), issued by the Ministry of Foreign Affairs of the U.S.S.R. and partly based on captured German material.

Across the Atlantic, activity ranged over the whole field of history, ancient, mediaeval, modern and contemporary. Besides various schemes sponsored by the Mediaeval Academy of America, the University of Pennsylvania launched a co-operative *History of the Crusades* (Philadelphia, Pennsylvania), the first volume of which was brilliantly executed by Professor J. L. La Monte. The American Historical association carried further various enterprises, such as a revised listing and indexing of British parliamentary papers and the library of congress continued the microphotography of materials relating to American history in European archives. The Pan-American union started an important new periodical called *Americas* (Washington, District of Columbia), an illustration of the growing attention paid in the United States to the history and culture of Latin America.

Much energy was directed on both sides of the Atlantic to various schemes for editing documents dealing with the origin and progress of World War II. More than 20 volumes were added to the printed evidence of the Nuremberg trials. The captured archives of the German Chancellery and Foreign Ministry provided the material for volumes 1 and 2 of series D of the *Documents on German foreign policy, 1918-1945* (London). These volumes were edited by a joint American, British and French committee and dealt with the years 1937 and 1938. Two further volumes of the E. L. Woodward and R. D. Butler edition of *British documents on foreign policy, 1919-1939* (London) appeared during the year: first series, volume 3, for the year 1919, and third series, volume 2, for the year 1938. No official histories of World War II itself appeared in Great Britain except W. K. Hancock and M. M. Gowing's introductory volume to the civil series, entitled *British War Economy.* The United States Department of the Army brought out volume 1 of the *War in the Pacific* (Washington, D.C.), dealing with Okinawa, and volume 2 of the series on *The Army Air Forces in World War II* (Washington, D.C.).

As regards Great Britain, historical studies were flourishing at the universities as never before—Oxford, Cambridge and London all had record numbers of research students. Following its establishment in permanent quarters in the University of London central buildings in 1948, the Institute of Historical Research attracted an increased number of scholars from all over the world. The annual Anglo-American Conference of Historians in July was attended by twice as many visitors as that held in 1948. Two further volumes of the large *Victoria County History of England* were issued by the institute during the year. In November Louis Francis Salzman retired from the editorship after an association with the *History* dating back to 1904 and was succeeded by Ralph Bernard Pugh. Revived interest in English local history was

a marked tendency of recent years, another manifestation being the appointment of archivists and assistant archivists by one county council or borough after another. The new periodical, *Archives* (London), started on Lady Day by the British Records association, was expected to co-ordinate much local effort organized by the association, the National Register of Archives and local societies.

Many record publications were issued during the year, including what might be the last volume in the great series of Public Record Office Calendars—the *Calendar of Patent Rolls, 1500-63* (London). A fine exhibition of treaties was on view at the Record office in the earlier part of the year, with a valuable catalogue. Another important publication was the introductory part of a new *Guide to the Public Record Office*, which would gradually supersede Giuseppi's well-known guide. A documentary series initiated was "Nelson's Mediaeval Classics," the first volume of which was a new text and parallel translation of the *Chronicle of Jocelyn de Brakelond*, edited by H. E. Butler, London.

Among secondary works the first volume of J. E. Neale's *Elizabethan House of Commons* (London) was universally acclaimed. The most prolific writers were H. Butterfield and A. Aspinall, each of whom produced three works of major significance. The former contributed a provocative study of *Christianity and History*, a fresh interpretation of *The Origins of Modern Science* and a highly specialized monograph on *George III, Lord North and the People, 1779-80* (London). Professor Aspinall described, from new sources, *Politics and the Press, 1780-1850*, he edited Home Office papers to show the development of *Early English Trade Unions* and he threw new light on the regency period with the *Correspondence of Princess Charlotte* (London). Finally, it was good to see that after the war's delays, the Royal Historical society's annual bibliography of *Writings on British history* had resumed publication, although there were many years of arrears to make up. (A. T. ME.)

HOCKEY. The International Hockey board made important changes in the rules of the game during 1949. These changes concerned principally offences under rule 10 (obstruction, rough play, etc.), rule 16 (corner) and rule 17 (penalty corner). In each case umpires were given power to impose more severe penalties than formerly for offences considered to be deliberate or persistent, the object being to check any tendency to obstructive or dangerous play. In addition the I.H.B. recommended that "an experiment be made with an enlarged circle of 16 yd. (instead of 15 yd.), and that all grounds be marked accordingly." These changes were not adopted officially in women's hockey, in which the rules differ somewhat from the men's game.

Ireland won the international championship, beating Wales 5-1, Scotland 4-0, and England 3-2. England defeated Wales 7-0 and drew with Scotland 0-0. Final positions:

	Played	Won	Drawn	Lost	Goals for	Goals against
Ireland	3	3	0	0	12	3
England	3	1	1	1	9	3
Wales	3	1	0	2	5	14
Scotland	3	0	1	2	2	8

Oxford defeated Cambridge in the 49th university match by 3-1.

The England women's hockey team won all their matches, defeating Wales 13-1, Scotland 3-2, and Ireland 3-0. Final positions:

	Played	Won	Drawn	Lost	Goals for	Goals against
England	3	3	0	0	19	3
Ireland	3	2	0	1	12	7
Scotland	3	1	0	2	15	10
Wales	3	0	0	3	4	30

(R. L. Hs.)

HOLLAND: *see* NETHERLANDS.

HOLLAND SIDNEY GEORGE, New Zealand statesman (b. Greenlade, New Zealand, Oct. 18, 1893), was educated at Christchurch West high school, started work at 15 and served in World War I. A business man and farmer, he successfully contested his father's seat of Christchurch north in the House of Representatives in 1935. He was re-elected for the same constituency in the general elections of 1938 and 1943, and for Fendalton in 1946 and 1949. A member of the National (conservative) party he was elected its leader and also leader of the opposition on Nov. 26, 1940, in succession to Adam Hamilton, who was a member of the war cabinet. In the general election on Nov. 30, 1949, the National party obtained 46 seats in a house of 80 members and thus brought to an end the Labour party's 14-year period of office. After the poll he declared that close and enduring relationships with Britain and the other countries of the British empire would be one of his governing principles. The governor general, Sir Bernard Freyberg, invited him to form a government and he was sworn in as head of the 42nd New Zealand ministry on Dec. 13. He took the portfolio of minister of finance in addition to the premiership.

HONDURAS. A republic of Central America bounded on the E. by Guatemala, on the S. by El Salvador, the Pacific ocean and Nicaragua and on the N. by the Caribbean sea. Area: 59,160 sq. mi. Pop.: (mid-1949 est.) 1,325,936, about 87% being *mestizos*, that is, Indians with an admixture of Spanish blood; there are also over 105,000 tribal Indians; on the Atlantic coast there are over 24,000 Negroes, of whom 3,000 are British subjects; the white population is less than 2%. Chief cities (pop., 1949 est.): Tegucigalpa (cap., 62,263); San Pedro Sula (24,425); Comayaguela (16,907). Religion: Roman Catholic. Language: Spanish, but unknown to thousands speaking only Indian dialects. President, Juan Manuel Gálvez.

History. The year 1949 opened with the country's first new president since 1933, when Gálvez took over the government. In his inaugural address on Jan. 1, he renewed his campaign pledges to support agriculture, the electrification programme, the tourist trade, improvement of education, road building and hemispheric co-operation.

The country's first national income tax, with rates graduated up to 15%, was enacted by the congress in a special session in October; and proposals to set up a central bank were bound over to the regular session in December. In the face of considerable popular opposition the government in November approved a contract with the Tela Railroad company (a subsidiary of the United Fruit company) for a 25-year concession for the development of cacao, palm oil and abacá fibre plantations in Honduras.

Plans were announced by the Standard Fruit and Steamship company for the re-opening of banana plantations in the Trujillo and Puerto Castilla districts. Work was begun during the summer on a $200,000 project to pipe 26 million gal. of water daily to Tegucigalpa from a distance of 11 mi.

Education. Schools (1949). primary 1,700, pupils 83,619; secondary 27, pupils 1,340; normal 24, pupils 1,541; commercial 14, pupils 1,073. The National university enrolled about 500 and the Pan American School of Agriculture, 171 students.

Foreign Trade. Exports during the year 1947-48 amounted to U.S. $19,128,342; imports, $34,905,933. The U S. supplied 79% of the imports. The chief exports were. bananas, timber, unrefined silver, coffee and coconuts.

Communications. In 1947 the banana area of the north was served by 922 mi. of railway; the main towns by 1,201 mi. of highway and 63 airfields. Public telephone lines measured 2,646 mi. There were six radio broadcasting stations in 1948. At the end of 1948 there were 959 private cars, 976 lorries and 26 buses registered.

Finance. The monetary unit is the *lempira*, officially valued (Nov.

15, 1945) at 49·02 U.S. cents. Budget: (1948-49 est.) expenditure 21,488,662 lempiras; (1949-50 est.) expenditure 20,244,162 lempiras. On Dec. 31, 1948, total money in circulation amounted to 16,738.573 lempiras. At the same time the foreign debt stood at 1,762,516 lempiras. (M. L. M.)

HONDURAS, BRITISH: *see* BRITISH HONDURAS.

HONG KONG. British colony on the coast of China consisting of the colony (Hong Kong island, the ceded territory of Kowloon and Stonecutter's island) and the New Territories (the remainder of the Kowloon peninsula and numerous islands) leased from China in 1898 for 99 years. Area: colony 36·5 sq. mi., New Territories 355 sq. mi. Pop. (mid-1949 est.): 1,857,000. Executive Council: seven official and four (two of whom were Chinese) unofficial members; Legislative Council; nine official and eight nominated unofficial members, at least three of whom would be Chinese. Governor, Sir Alexander Grantham.

History. Proposals for the institution of a municipal council partly chosen by popular election and for the reduction of the official membership of the Legislative Council to seven, giving an unofficial majority of one, which had been approved and were expected to come into effect in 1948 were, in fact, postponed. In 1949 new proposals were put forward with the unanimous support of the unofficial members of the Legislative Council; they involved the deferment of the municipal council proposals and the reconstitution of the Legislative Council on broader lines and with some popularly elected members (the numbers suggested were 11 unofficial and 6 official members).

But the position in Hong Kong during the year was dominated by the sudden successes of the Communist regime in China. British military reinforcements were despatched as a precaution against possible incidents. The defences were strengthened and in June the minister of defence, A. V. Alexander, visited the colony for defence talks. With the capture of Canton by the Communists, the operation of the Canton-Kowloon railway was temporarily suspended.

The nature and scale of the colony's trade made difficult the application of the strict exchange restrictions in force elsewhere in the sterling area; and in April the government banned all dealings in and the possession of gold without the express permission of the governor as, in spite of rigid import and export regulations, there had been an active gold market with prices well above those laid down by the International Monetary fund.

The long-awaited report by Sir Patrick Abercrombie, the town planning expert who visited Hong Kong in Nov. 1947, was released in September. He recommended, *inter alia*, a tunnel between the island and the mainland, a realignment of the railway and the move of the armed forces from their present quarters in the centre of the city.

Finance and Trade. Currency: $1 = 1*s.* 3*d.* Budget (1948): Revenue $136,093,240; expenditure $113,960,826. Foriegn trade (1948): imports $2,077,538,615; exports $1,582,739,710. (J. A. HU.)

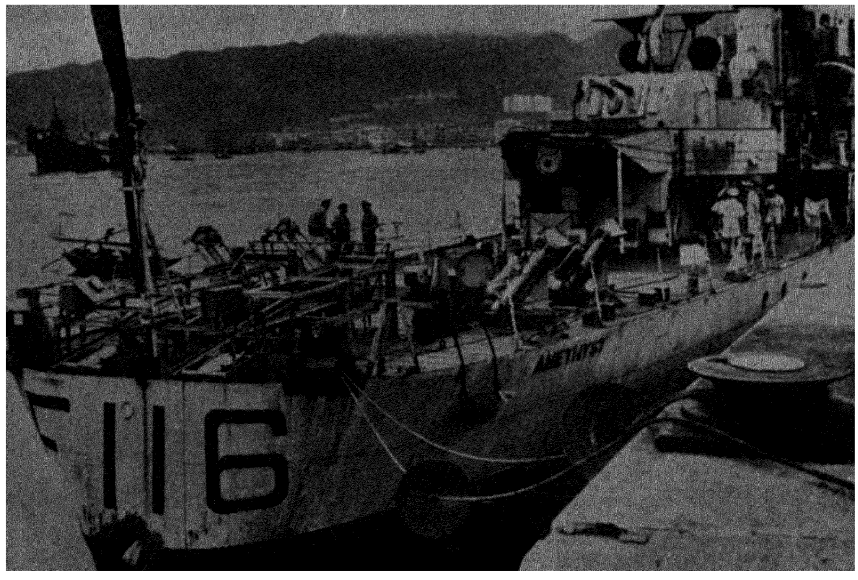
HOPS. The 1949 crop consigned to the Hops Marketing board was 151,500 pockets as compared with 167,736 in 1948. The estimated market demand for 1949 hops by brewers (some of whom grew their own hops) was fixed at 247,000 cwts. It was doubtful whether the 1949 crop would come within 20,000 cwt. of that total and brewers' contracts were scaled down to 89% of their estimated requirements. Having regard to the decline in beer consumption, however, the percentage allocated to brewers would be sufficient for a year's production at the existing rate.

The hot, dry summer was responsible for the crop being smaller than in 1948, the cones being unusually small; but it also resulted in a crop well above average in quality. Hops in general were greener than usual, possibly owing to lack of rain, but in most cases were fully ripened.

In the 1949 season the responsible and complex task of assessing the cost of production per cwt. of hops, on which the average price to be paid by the brewer was based, was being undertaken by the specialized staff of the Joint Hops committee and not, as heretofore, by the staffs of Wye college and Bristol university.

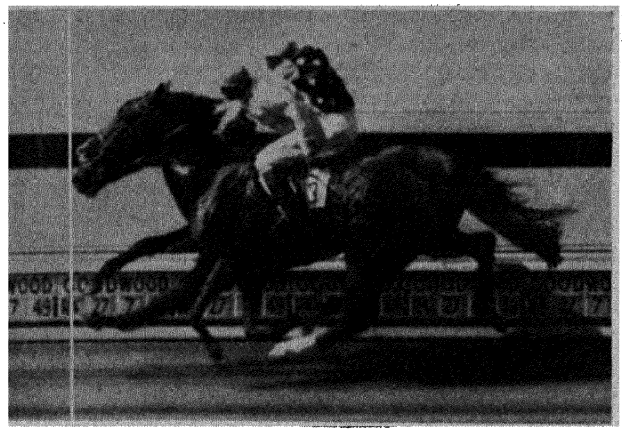
Early in the year the Permanent Joint Hops committee decided that the average price of the 1948 crop should be £25 15*s.* a cwt. as compared with £23 10*s.* a cwt. for the 1947 crop. Against the total contracts of 275,023 cwt. the crop consigned to the board amounted to 255,903 cwt., and contracts were fulfilled up to 88%. The acreage under hops, including headlands, was 22,638 ac.

Several firms of merchants were striving to establish abroad new markets for English hops. This would be a development of unquestionable value for the export trade and therefore in the national interest. It might also serve to provide a useful "cushion" against the effects of exceptionally good or bad seasons so far as the home market was concerned. (*See* also BREWING AND BEER.)



The damaged hull of H.M.S. "Amethyst" as seen at Hong Kong where she arrived on Aug. 3, 1949, after escaping from the Yangtse where she had been held from April 20.

HORSE RACING. The National Hunt season in Great Britain and Ireland was favoured with a mild winter in 1948-49; the only race of importance to be affected by frost was the Cheltenham Gold cup, postponed from March to April. The winner, as in 1948, was F. L. Vickerman's Cottage Rake. The Champion Hurdle cup was won by Hatton's Grace, ridden, like Cottage Rake, by A. Brabazon and prepared



The official photo record of the finish of the Bentinck stakes at Goodwood, July 1949. "High Stakes" was declared the winner, but later the stewards announced that a mistake had been made.

by the same trainer, M. V. O'Brien. O'Brien accomplished the rare feat of training the winners of the three main events at Cheltenham, for he also trained Castledermot, who won the National Hunt steeplechase ridden by Lord Mildmay. The Grand National was won by W. F. Williamson's Russian Hero, trained by G. Owen at Malpas, Cheshire, and ridden by L. McMorrow. It was the first time after 1932 that the race had been won by a horse bred in England. A new honour was bestowed on National Hunt racing by the announcement in September that a partnership had been registered in the steeplechaser Monaveen by the Queen and Princess Elizabeth.

Throughout Europe flat racing was hampered from June onwards by the prolonged drought, which made the going unsuitable to many horses. Attendances at race meetings showed the decline that was to be expected after the immediate postwar boom, but that the meeting of the best horses in Europe could still excite public interest was proved by the enormous crowd that watched the Prix de l'Arc de Triomphe at Longchamp in October.

Two unusual events attended the English season; one, the entry into ownership of Winston Churchill, who won several races in the autumn with his French-bred colt Colonist II; the other, the disfavour into which the photo finish fell in many quarters. This was largely caused by the photograph showing the finish of the Bentinck stakes at Goodwood in July, which was so deceptive that the judge awarded the race to the wrong horse. The stewards of the Jockey club subsequently took the unusual step of announcing that in their opinion the judge had made an incorrect decision, but the rules of racing did not allow the official result to be changed.

In the opinion of most good judges, the three-year-olds, both English and French, were of unusually poor quality, with the exception of the sprinter Abernant, unrivalled over five furlongs, and the Two Thousand guineas and Derby winner Nimbus, who did not race after his Epsom success. There was a remarkable finish to the Derby, for, after Nimbus, owned by Mrs. M. Glenister, and Lord Derby's Swallow Tail had disputed the lead for most of the way, they were joined close home by Amour Drake and in a finish in which all three horses came off a true line, the photograph had to be inspected—for the first time in this historic race—to show that Nimbus had beaten Amour Drake by a head, with Swallow Tail a head away third. Nimbus was trained at Newmarket by G. Colling and was ridden by E. C. Elliott.

On the continent of Europe, the horses owned by M. Boussac won a similar success in France to that consistently achieved in Italy by F. Tesio. However, the French classics were shared between M. Boussac and other owners. Amour Drake won the French Two Thousand guineas in May and Good Luck the Prix du Jockey club a month later. The Grand Prix de Paris, run three weeks after the English Derby, went to a filly Bagheera, with the English-trained Royal Empire second and Amour Drake third.

The autumn did not, as in 1948, bring brilliant but hitherto backward horses to the head of the three-year-old field, for there was nothing to suggest that Ridge Wood, winner of the St. Leger, or Ciel Etoile, who won the French equivalent, were of any great merit. Ridge Wood was beaten in the King George VI stakes at Ascot by Boussac's Marveil.

Despite the mediocrity of the colts, the fillies were in general well behind them; an exception was, of course, the Grand prix winner Bagheera, and no less important, Boussac's Coronation V, who won the French Thousand guineas and in October the Prix de l'Arc de Triomphe, in 1949 worth Fr. 3,000,000 or about £30,000, and thus one of the richest races ever contested. Coronation V was the result of a bold experiment in inbreeding, for both her sire and dam were by Tourbillon. She had, however, run without success in the Epsom Oaks, won like the Thousand guineas by Musidora, and had been beaten in the Irish Oaks by Circus Girl. The Irish Derby was won by the Aga Khan's English-trained Hindostan and the Irish St. Leger by Brown Rover, also trained in England, after the disqualification of Moondust.

If the three-year-olds were moderate, there were some exceptional horses a year older. Black Tarquin, winner of the previous year's St. Leger, won several races early in the season, but had to bow in the Ascot Gold cup before Lord Derby's Alycidon, generally considered one of the finest stayers of his time. Alycidon also won the Goodwood and Doncaster cups and was the first horse to win all three races since Isonomy in 1879. J. B. Townley's Sterope, ridden by E. C. Elliott, won the Cambridgeshire stakes for the second year in succession, being the third horse to do so.



Johnny Longdon (left), America's champion jockey, with Gordon Richards, Britain's champion, at Bath, Aug. 1949.

With the exception of the three-year-old Abernant there were no outstanding sprinters, and no two-year-olds gave any indication that they would hold exceptional chances in the next year's classic races. One of the features of the two-year-old racing was the unusual success of those raced in England by the Aga Khan, for they won in stake money a total of some £40,000. In France the filly Corejada, yet another high class winner belonging to M. Boussac, appeared the best of her sex and in October defeated the best English filly Diableretta at Newmarket. (M. A. ME.)

United States. The year was a memorable one although attendance and totalizator figures continued to drop for the third year in succession. Despite reduced expenditure at race-courses the season proved a financial success and as 1949 ended official figures were expected to show that nearly $1,400 million had been spent on bets and that attendance was nearly 23 million.

The Kentucky Derby at Louisville, Kentucky, on May 7, proved to be one of the season's major surprises when Ponder, after getting away from a slow start, worked his way up the field to lead home 14 rivals. Ridden by Steve Brooks, Ponder at 16 to 1, won by three lengths, with Capot, "the horse of the year," second and Isador Bieber's Palestinian third. F. W. Hooper's favourite Olympia was sixth. In the Preakness Stakes at Pimlico, Baltimore, Maryland, on May 14, Capot created a new course record, winning by a head from Palestinian. Noble Impulse, owned by Crispin Oglebay, was third, Mrs. E. H. Ellison's Sun Bahram was fourth and the favourite, Ponder, fifth. With jockey Ted Atkinson up, Capot covered the mile and three-sixteenths in 1 min. 56 sec. Coaltown, despite his 1 min. 34 sec. world mile record in the Whirlaway Stakes proved no match for Capot who won the Sysonby Mile and the Pimlico Special easily.

Ponder's $321,825 prize money made him the year's leading money winner in U.S. racing. Capot, Ponder, Palestinian and Olympia were the best of a fine crop of three-year-old colts and Calumet's Wistful and Two Lea led the three-year-old fillies. Hill Prince, Guillotine and Middleground shared the big events for two-year-old colts. The Calumet Farm's string of horses again won more than $1 million, outdoing all its rival stables, Willie Molter was the leading trainer, saddling the most winners, and Gordon Glisson was generally acknowledged as the outstanding jockey of the season. (T. V. H.)

HORSES: *see* LIVESTOCK.

HORTICULTURE. The year 1949 would long be remembered by horticulturists, particularly those in the south of England, as the year of the great drought. While some sun-loving plants flowered more finely than in a normal year, many others particularly in such genera as Meconopsis, Gentiana and Primula suffered severely and the stocks of many difficult and rare species were sadly diminished.

A Rhododendron conference, originally arranged for 1940 but postponed owing to the war, was held in April 1949 under the auspices of the Royal Horticultural society, London. Six papers were read to the conference and were subsequently reprinted in the society's *Rhododendron Year Book* 1949. The conference provided the occasion for a special show of rhododendrons and for a ten-day tour for enthusiasts of the genus round the most famous rhododendron gardens of the southern and western counties.

The Joint Gardens committee of the National Trust and the Royal Horticultural society made further progress during the year and announced that the gardens at Hidcote manor in Gloucestershire and the famous gardens at Bodnant in North Wales had been presented to the National Trust for control by the committee through the kindness of Major Lawrence Johnston and Lord Aberconway respectively. An article by V. Sackville-West on the garden at Hidcote appeared in the *Journal of the R.H.S.* (Nov. 1949) and a general article by the Earl of Rosse on the scheme was published in October in the same journal.

During the year the Royal Horticultural society supported plant hunting expeditions to central Bhutan by Major G. Sherriff and F. Ludlow, to Nepal by Oleg Polunin and to the mountains of southwest Anatolia in Turkey by Peter Davis, and a rich harvest of seeds was obtained. These were being raised at the gardens of the society at Wisley and at other establishments throughout the country.

A complete volume of the *Botanical Magazine* under the editorship of Dr. W. B. Turrill and dedicated to Lord Aberconway appeared during the year. The coloured plates were printed for the first time by a colour gravure process. A *Revised List of Tulips Names*, a provisional *Check List of Delphinium Names* and an illustrated volume dealing with *New Plants of the Year*, which received awards in 1948, were also published in 1949 by the Royal Horticultural society.

In Paris the great spring Flower exhibition of the Société Nationale d'Horticulture was held during May for the first time after the war and attracted large exhibits and many visitors. The Chelsea Flower show and the Northern Summer show at Southport were held as usual and the exhibits and attendance at both was even greater than before.

The results of horticultural research in the subject of virus diseases attracted much attention during the year and the Masters Memorial lectures delivered by Dr. Kenneth M. Smith at the Royal Horticultural society dealt with this subject (see *Journal of the R.H.S.*, vol. 74, parts 11 and 12). Entomological research was carried on at Wisley during the year into the effects of some of the newer synthetic insecticides – such as DDT, BHC, HETP and the substance still known as E.605—upon a range of horticultural pests and comparative trials were carried out with different smoke generators, aerosols and continuous phase aerosols against a number of glass house pests (see *Journal of the R.H.S.*, vol. 74, part 10).

Further developments were recorded during the year in the adaptation of machinery for garden use. Although the majority of these machines were still more suitable for the market gardener than the amateur with a small garden, attempts were made to produce machinery suitable for the latter's use. Special advances were made in the use of electricity for driving small mowing machines and hedge cutters.

The John Innes Horticultural institution completed in 1949 its move from Merton to Bayforabury near Hertford and good progress was made with the establishment of its extensive collections and in the building of new greenhouses. The institution's cytological and genetical work had become increasingly important in horticulture. A permanent collection of rose species was being formed there under the ægis of the Ministry of Agriculture's scheme; and collections of dahlia and chrysanthemum species were being formed at Wisley.

Sir Ronald G. Hatton retired from the directorship of the East Malling Research station and Dr. F. R. Tubbs succeeded him. W. C. Moore succeeded C. T. Gimmingham as director of the Ministry of Agriculture Plant Pathology laboratory at Harpenden. Prominent horticulturists who died during the year included Sir Frederick Moore, formerly director of the Glasnevin botanic garden; Charles Musgrave; Alister Clark of Australia; C. R. Radcliff of Tasmania; W. B. Cranfield and Lieut. Colonel Stephenson Clarke.

The Victoria Medal of Honour was awarded in 1949 by the council of the Royal Horticultural Society to M. C. Allwood, E. Ballard, E. R. Jones, Canon H. Rollo Meyer and Dr. John Ramsbottom. (P. M. SE.)

United States. Record-breaking cold weather on the Pacific coast ushered in the year 1949, with heavy damage to citrus

and other commercial crops and to ornamentals. Arizona had a 50% loss in oranges and grapefruit. Vegetables and especially the cabbage seed crop in the Pacific northwest were hard hit. Montana and some other western states and most of the eastern states suffered severely from drought throughout the season after May.

Despite weather conditions, the apple crop was very large throughout the country—the largest since 1939. Wholesale prices fell off sharply, and growers were faced with inadequate storage facilities

Insect pests continued to take their toll, amounting to an estimated $95 million. Grasshoppers overran parts of the west but excellent control was finally found in chlordane and toxaphene, new spray materials. The European corn borer continued to spread throughout the west and remained a serious pest in the east. However, DDT was found very effective. DDT also proved a boon to the apple growers of the northwest, reducing the number of spray applications from six, or even eight, to three. Chlordane proved as successful as DDT in controlling the Japanese beetle and was cheaper. Experts expected it, when applied to grass and watered in, to be effective for two or three years. Parathion was a new insecticide widely experimented with and seemingly effective in controlling orchard mites, pear *psylla* and certain scales. The citrus black fly appeared in Mexico as a serious threat, and U.S. scientists worked with the Mexican government to check its spread. Gladiolus growers felt that they had found a control in Spergon for the fusarium disease (a rot).

A large increase in the number of wild deer became a problem in several states, notably New York and Maine. The use of coated vegetable seeds by commercial growers increased, reducing the amount of labour needed for thinning.

The All-American gold medal award went to the new rose, Fashion, which was also awarded the gold medal of Bagatelle, France, and the gold medal of the British Rose society. It was the first rose of the floribunda type to win the all-America award.

Netherlands bulb growers began shipping early, and lower prices prevailed, so that some Maine farmers began experimenting with Dutch bulbs as a supplementary crop. (*See* also BOTANICAL GARDENS; BOTANY.) (E. I. F.)

HOSPITALS. The new regional boards and hospital management committees appointed in Great Britain under the National Health Service act had become operative on July 5, 1948, and were, therefore, six months old at the beginning of 1949. The reshuffle of personalities and responsibilities soon led to numerous projects for the improvement of the hospitals, especially as the former authorities had been reluctant to incur expenditure upon services that were shortly to become the responsibility of the exchequer. Many hospitals had been short-staffed during the preceding years, and postwar shortages had limited repairs and replacements. When, therefore, the first budgets were submitted to the minister of health early in 1949 it was found that the cost of the hospital specialist and ancillary services had risen from £87 million, as estimated when the National Health Service bill was before parliament in 1946, to no less than £170 million. In March the minister called for economy in terms which meant that many of the estimates would have to be severely pruned and there was much consternation in hospital circles. Although this call for economy was later modified, it was widely felt that the level of expenditure thus fixed was inadequate, and would not permit of the quality of service the public expected from the national health service. The wisdom of these cuts in the estimates (as they were popularly known) was hotly contested throughout the summer months. There seemed little doubt that the former methods of financing the hospitals had masked the full extent of the real need for expenditure. Thus it was found that in many hospitals greatly improved arrangements were desirable in the out-patients department and in the systematic handling of medical records, but that changes could not be effected without increased staff and expenditure. Payment of doctors who had formerly given their services gratis, better pay and shorter hours for nurses and domestic workers and revised scales for many grades of technicians and administrative staff all played their part in increasing the bill to a level which startled parliament and the country.

The hospital management committees to whom the day-to-day control of the hospitals was entrusted by the act showed a strong sense of independence and a desire to manage their own affairs without too much control from the regional boards. This was widely regarded as a healthy sign; difficulty arose, however, from the financial system, which, although based upon budgets prepared by the hospital management committees themselves, lacked any objective standard by which the estimates could be assessed. Estimates were therefore liable to be pruned both by the regional board and by the ministry under pressure of the need for economy, and the hospital management committees felt their work was frustrated by what they considered to be unwise interference. The lack of a proper system of costing was among the matters discussed when evidence was given before the select committee on estimates on the administration of the national health services (report published by H.M.S.O., London, May 1949). It was pointed out that these difficulties were due to the retention of an obsolete system of hospital accounts, which did not provide for departmental analysis of expenditure and consequently made it impossible for the ministry to allot each hospital management committee a round sum and to allow it discretion to spend this amount as it wished. Many felt that the success or failure of the new system largely depended on solving this problem. In the absence of a solution the tendency to bureaucracy, already serious, would be bound to increase and the sense of independence among the hospital management committees would be gradually undermined. The new pattern of administration at the hospital management committee level, although partly modelled upon that of the former voluntary hospitals, was in many cases operated by men drawn from other forms of public service, and the respective functions of the hospital management committees, of the lay administrator and of the medical and nursing staff were in the early months often imperfectly understood. The training facilities provided by the Institute of Hospital Administrators were in great demand and towards the end of the year King Edward's Hospital fund announced its intention to establish in London a small residential staff college for hospital administrators where refresher courses could be offered, and where a small group of new entrants to the field could receive a systematic training. This college would be in some ways comparable with the several university schools of hospital administration in the United States and would be the first attempt in Great Britain or in Europe generally to establish a college solely concerned with hospital administration.

It had, of course, been expected that the abolition of all charges (except in the relatively few pay beds reserved for private patients) would lead to an increased demand for accommodation. In the big cities there was very heavy pressure on accommodation during the winter months of 1948-49. In London, the emergency bed service was unable to admit some 3,500 patients but it was noticeable that nearly all of these were elderly; *i.e.*, aged 60 or over. Much of the difficulty was to be attributed to the success of recent medical discoveries which have lengthened the expectation of life and created a special problem for the hospitals. A number of hospitals set up special "geriatric" departments for dealing with the aged on more active lines than had been customary in the past,

and voluntary bodies such as King Edward's Hospital Fund for London and the Nuffield Corporation for the Aged took steps to provide special homes to receive elderly persons who could not otherwise be discharged from hospital. The increased call upon hospitals also affected the out-patient attendances; although no official figures were available, it was known that at some of the large London teaching hospitals out-patient attendances had increased by well over 100,000 a year in the first year of the new service.

These momentous changes in the hospital system in Great Britain continued to attract great interest in the United States of America and in many other countries. They figured largely in discussions at the International Hospital congress held in Amsterdam, Holland, from May 30 to June 3 by the newly reconstituted International Hospital federation (president: Dr. René Sand of Belgium) Discussions at the congress showed that the need for some form of regional grouping of hospitals was recognized in almost all countries; thus, in France, hospitals were being surveyed and classified with the object of developing a regional plan in some ways similar to that in operation in Great Britain; in Norway, hospitals were being organized in some 20 regions; in Denmark they were already grouped in some 18 regions and in Italy, too, under the new constitution, there were to be hospital regions. Sir E. Rock Carling (Great Britain) expressed the belief that a general hospital should serve some 250,000 inhabitants and the view seemed to be held generally that a single hospital should not exceed 700-800 beds. (For a brief account of the congress, see *Lancet*, June 18, 1949.) (A. G. L. I.)

Canada. During 1949, the development of most interest was the National Health programme which provided extensive financial assistance for hospital construction and education of personnel, and special grants for tuberculosis, mental care, cancer control, general public health and other special services. Since April 1, 1948, projects for the construction of 15,000 additional beds had been approved.

The other major development in Canada was the inauguration on Jan. 1, 1949, of the Hospital Insurance service in British Columbia. This was a state-sponsored insurance plan covering practically all citizens. In many respects the plan was similar to that which had begun in Saskatchewan two years earlier. In both cases hospitals were being paid their approximate costs, and in both instances reasonably satisfactory arrangements between the hospitals and the government were established. In both provinces, however, costs rose beyond anticipated figures and premiums had to be increased to subscribers, with a goodly portion of the cost being still absorbed by the province.

United States. A new peak in the construction of hospital facilities was reached during 1949. The first of the 1,000 construction projects approved for federal aid since passage of the Hill-Burton act in 1946 were completed. Construction expenditure approved under the act by Nov. 1, 1949, totalled $640 million and involved 35,000 general hospital beds alone. An amendment to the act, passed by congress during 1949, extended the programme until June 1955 and doubled the annual federal contribution to $150 million.

The shortage of nurses and other hospital staff eased during the year. Many hospitals introduced training programmes for practical nurses and other semi-skilled staff. Wage levels and employment conditions remained about the same as in 1948. Non-profit general hospitals in 1949 averaged 173 employees for each 100 patients, as compared with 161 per 100 patients in 1948.

A survey of the American Hospital association showed that hospital patients were paying an average 83% of the actual cost of hospital care they received. The remaining 17% was met through gifts, payments from government and charitable agencies, or comprised hospital deficits. It was estimated that from 1945 to 1948 general hospitals in the United States supplied almost $700 million worth of hospital treatment for which patients did not pay directly.

The organization of the Commission on Financing Hospital Care was begun by the American Hospital association. This two-year study would investigate the costs of providing adequate hospital services in the United States and determine the best systems of payment for such services. Like the previous Commission on Hospital Care, the new study would be financed and operated independently of the association, under 27 commission members representing a cross-section of the U.S. public.

The outstanding event of the year in hospital prepayment plans was the establishment of the National Blue Cross association. This was a stock insurance company to underwrite excess insurance for individual Blue Cross plans in the enrolment of national accounts. In its first five months of operation, the Inter-Plan Service Benefit bank paid almost $200 million to hospitals for about 25,000 patients cared for by host plans outside the area of their home plans. By the end of 1949, it was expected that more than 35 million individuals would be members of Blue Cross plans in the United States and Canada. These were enrolled through more than 260,000 industries, commercial organizations and similar groups. At least 61 million persons in the United States had hospital prepayment coverage of some sort. (*See* also NURSING.) (GE. BU.)

HOTELS, RESTAURANTS AND INNS. In Great Britain 1949 was another difficult year for hotels, restaurants and inns, financially and otherwise, and the exceptionally fine spring and summer did not attract additional business sufficient to make up for the continued decline in public spending.

Costs of conducting establishments increased all round; the most severe burden arose from the regulations of the Catering Wages act, 1943. As regards licensed residential premises, after prolonged representations by the employers (many of the more experienced employees as well were anxious as to the ultimate effects), an amending order was issued giving certain reliefs. These did not, in the judgment of the proprietors, go far enough to restore flexibility to a wage structure of permanent application, to permit more normal services to be renewed and maintained. Heavy payments for overtime, spreadover, etc., often left managements with no option but to reduce services to an inconvenient minimum, not conducive to the best hotel or innkeeping standards.

The order applicable to unlicensed premises, which was pending at the end of 1948, was not made. Proposed regulations were issued and strenuously opposed by the establishments concerned—between 70,000 and 80,000 private hotels, boarding and apartment houses. These regulations were seen to be as complicated and rigid as those for licensed residential premises and even more difficult to work, bearing in mind the smaller staffs and less organized methods used in a great many of the premises affected. A new set of proposals were issued, less onerous but still regarded as unnecessarily restrictive. An order giving effect to these, subject to final amendments in the light of representations made, was expected to become operative in 1950.

Two matters of major importance to hotels, restaurants and inns which should be mentioned were: (i) 1949 was notable for another substantial increase in the number of visitors from overseas, particularly from America; the Travel association stated that there were some 560,000 tourists, earning for Great Britain £55 million—a record; (ii) on the other side of the picture there was an exodus from Great Britain on a considerable scale; many persons wishing to visit the continent again after the long war years and especially

as hotels and restaurants there were able to offer more attractive meals.

Indeed, in Britain, establishments at the end of the year, were still subject to the severe rationing regulations of the war period almost in their entirety. The greatest disappointment was that the minister of food did not see his way to remove, or at least modify, the Meals in Establishments order, with its 5*s*. maximum and complicated build-up, where applicable, of a house charge, charges for meals served in private rooms, dancing and cabaret and service.

The most satisfactory feature perhaps was the continued recognition by the government of the important place that hotels, restaurants and inns occupied in the national economy, ranking first again among the major industries as dollar earners. Greater readiness to assist establishments was therefore understandable. For instance, the Licensing act, 1949, created new permitted hours during which alcoholic liquor could be served until 2.30 A.M., where dancing or cabaret entertainment was provided. Establishments in Westminster were quick to take advantage of this—a praiseworthy effort on the part of all concerned to revive London's night life, which it was felt overseas visitors would specially appreciate.

The government-appointed British Tourist and Holidays board, with its separate hotel and tourist committees, continued to work to attract more overseas visitors and to assist the industry to cater for them. One of its activities was a hygiene campaign amongst catering establishments. The recently formed National Council for Hotel and Catering Education set up an Hotel and Catering institute, with the object of creating professional status for hotel keepers and caterers, properly trained and certificated. In November, the International Hotel association held its third annual congress in London, the British Hotels and Restaurants association acting as official hosts. (H. C. CE)

United States. Three spectacular developments during 1949 were the opening of the new Shamrock Hotel in Houston, Texas, on St. Patrick's Day, the acquisition of the Waldorf-Astoria in New York by the Hilton interests, and the continued extravagant expansion of resort hotel construction at Miami Beach, Florida, in an otherwise uneventful year in the hotel industry.

In general, the industry did little to redeem its record of being traditional, complacent and ultra-conservative, in comparison with other heavy capital enterprises. Little real progress was made in one of its most perplexing problems, cost control and accurate cost accounting though one hotel began to search for an actuarial mathematician to see if some simple formulæ could be evolved to give management quick and concise data. Neither was much imagination shown in the expenditure of many millions of dollars on rehabilitation. There were attempts to compromise between modern and traditional architecture and decoration, without achieving the best points of either. Except at Miami Beach none of the smaller hotels constructed during 1949 took advantage of the immense strides in architecture; and even in that area very little appeared that was truly notable except in lavishness. Architects specializing in hotel design did some creditable work but were apt to repeat their motifs and methods.

Financially, 1949 saw a continuation of the trends evident in preceding years. Room occupancy was down in varying amounts in various areas, the national average decline being about 4 to 5%, according to preliminary estimates. In spite of increased competition and decreased occupancy rooms did not become cheaper.

Restaurant receipts showed varying tendencies, usually according to the efficiency of the management; but beverage and bar business continued the decline begun in 1946. While occasionally prosperous, night clubs in hotels were increasingly difficult to operate on a profitable basis and so-called " supper spot " attractions decreased in box office appeal as well as in salaries.

Wages, taxes and some food costs increased during the year; rehabilitation, except for labour, was not quite as expensive; net profits were down to an extent not yet revealed at the close of the year, but not to an alarming degree; the margin between revenue and overhead expenses, however, still decreased. (*See* also TOURIST INDUSTRY.)

HOUSING. Against a background of growing anxiety with regard to the national economy as a whole, Great Britain in 1949 proceeded with its housing programme with the utmost energy. By the end of June, 684,045 new homes, of which 526,897 were permanent and 157,146 were temporary had been erected in the United Kingdom under the housing programme which began immediately after the general election of 1945. Additional homes were also provided by the reconditioning of service camps, the conversion of larger houses into smaller units and other ways so that by Nov. 1949 more than a million families in the United Kingdom had been moved from overcrowded houses into modern, well equipped and comparatively spacious new homes.

The actual work of construction gained momentum with the years and whereas, in 1945, 3,014 houses were built, in 1948, 227,616 were built. In 1949 the building industry in the United Kingdom was building 100 houses for every single house built in 1945, and the monthly production figure now rose to something like 25,000 houses a month. On June 30, 1949, 190,486 permanent houses were under construction, while tenders for an additional 63,867 had been approved. Despite the stringency of the economic position and the determination of the government to reduce expenditure wherever possible, no great cut in housing expenditure was even contemplated and certainly no substantial diminution of the number of houses to be constructed would have found favour either with the government, with parliament or with the people. Nevertheless the government adopted the policy recommended by the Royal Commission on Population that a larger proportion of smaller houses should be provided to meet the modern tendency towards the small family. It was a commonplace criticism of the performance of the British building trade worker that before 1939 three building trade workers produced three houses a year, whereas after 1945 three building trade workers produced only two houses a year. There was some force in this criticism, but it would have been grossly unfair to the building trade worker, whose work was often impeded by the uneven delivery of essential materials to the site of building operations, not to acknowledge the fact that in making this three to two comparison, one was not comparing like with like. The average house in Britain before World War II had a floor area of 850 sq. ft. The standard postwar house in Britain had 1,090 sq. ft. of floor area. The 775,000 seriously damaged war houses used labour and materials sufficient to build over 100,000 new houses; the 139,887 houses which had been so badly damaged by bombs as to be completely uninhabitable were restored, while new dwellings were provided for 118,770 families by the conversion of existing buildings. When it was urged, as it frequently was, that the building industry could do more, it should have been remembered that in Scotland, for example, the master builders informed the government that the programme which the government had set them was straining the resources of the industry to the absolute limit.

Legislation was passed during 1949 extending state housing beyond the housing of the working classes, to meet the needs of every section of the community, and empowering local authorities to grant loans up to 90% of £5,000 for private house purchase or building.

In addition to all the houses built by the state and the local authorities after 1945, private enterprise built 88,046 houses in the United Kingdom, of which 4,058 were in Scotland. The government had consistently taken the view that houses should be built by local authorities for letting and not for sale. They granted discretion to local authorities to give permission for a fifth of the houses on their housing programme to be built by private enterprise for sale and owner occupation. When the decision to devalue the pound was taken in Sept. 1949 and a programme was launched to save £250 million on the expenditure side of the national revenue, the government decided to suspend, at least temporarily, permission to build houses for private sale. This did not mean that private enterprise and the private building contractor were debarred from taking an active part in the work of housing re-construction. On the contrary, nearly all the houses built in Britain in 1949 or at any time after World War II (with two exceptions: (*a*) a small number of houses built by local authorities who had their own Public Works department and who employed the method known as "direct labour," and (*b*) houses built by the Scottish Special Housing association) were built by private building contractors who had successfully tendered for the work to the local authority.

The government continued to give special priority to coal miners and to agricultural workers. In allocating houses to tenants, local authorities were under a statutory obligation to consider the housing needs of the families concerned; but they now had the additional responsibility of considering also the economic needs of the nation; and in accordance with this policy, by the end of June 1949, 30,528 mining families and 18,418 agricultural workers' families had been re-housed in homes built by local authorities. This did not mean that in mining and agricultural areas local authorities were encouraged or even permitted to embark upon unlimited new contracts.

During the year the aluminium house, which had made a significant contribution to the temporary housing programme, made an equally significant one to the permanent programme; and in many towns it was common to see a complete house being hauled through the town in four sections ready to be erected on the site, thereafter for immediate occupation. These houses, built on the conveyor belt system in factories, were complete in every way. They were not mere skeleton houses, for the sections included the cooking range, the kitchen sink and the bath and lavatory. They could be erected in a few hours on prepared sites and, by June 1949, 15,573 aluminium bungalows had been completed. Another factory-built house made under government auspices was that designed by Sir Edwin Airey, a two-storied house composed of concrete blocks and posts; some 20,000 of these houses were allocated to local authorities.

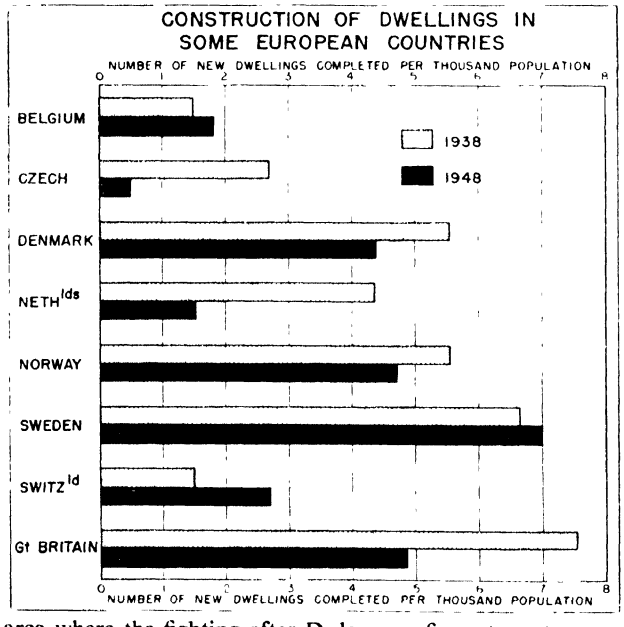
Housing costs remained very high and a house which would have cost £400 before the war cost £1,500 or more. There was a large inflationary element in this price, although during 1949 there was a downward tendency.

Commonwealth. In the dominions, particularly in New Zealand and Australia, the housing shortage remained acute, nor was it likely to be solved until these dominions, who were pursuing a strong immigration policy, could attract a substantial force of trained building labour from the United Kingdom. This in turn was held up by the acute shortage of shipping.

In the African colonies, housing needs were greatly accentuated by the rapid rise in native populations and by the many new industrial enterprises which had been started after World War II. The groundnuts scheme in British East Africa gave rise to a number of ambitious housing projects both for the European municipal staff and for the African workers. In Nigeria, where indigenous forest trees were being converted into sawn timber or into plywood in one of the most modern factories in the world, the pressure on housing accommodation was so great as to produce an extremely difficult social problem, not only of overcrowding but of high rents for sub-standard accommodation in appalling slums. After three years of frustrating delays the timber company secured all the necessary permissions and acquired the land for what promised to be a model housing estate for 2,000 workers. At Takoradi in the Gold Coast, where timber wharfs and a vast extension to the harbour were being built, the government showed more forethought and a model village of some 500 houses was being constructed on a site at Sekondi, overlooking the Atlantic surf, in advance of the requirements of the workers who would be engaged on the harbour construction. In Zanzibar where a rapid attack was being made on the slum problem, a simple expedient was meeting with great success. People who were living in poor houses were enabled to buy sets of concrete pillars, each measuring 10 ft. by 6 in. square, for a nominal sum. These formed the main structural supports of a house and were then filled in by the occupant himself with mud or with a mixture of mud and cement.

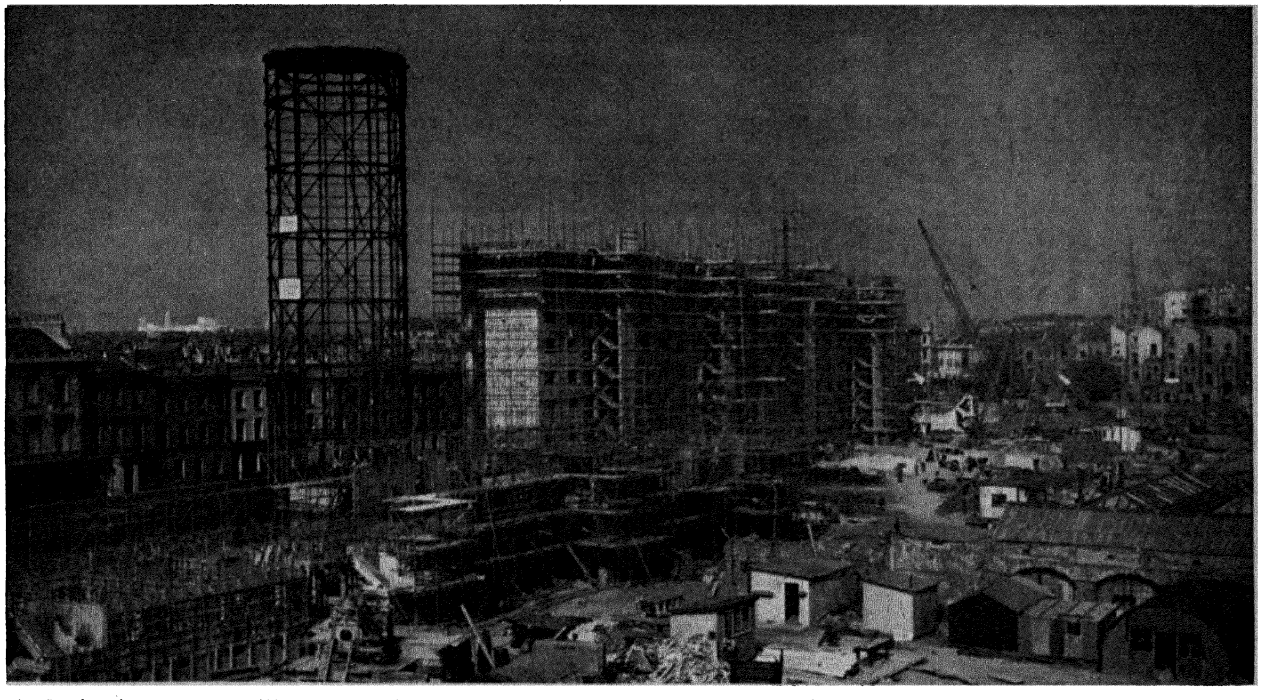
When European standards were applied to the re-housing of colonial peoples the cost of housing was almost as high as in the United Kingdom. Many people felt that to impose European standards and designs was not such a good policy as to adapt the indigenous materials and standards to modern requirements and in the Gold Coast, for example, although the government tended to favour the permanent structure of brick or concrete, there was a strong feeling among many of the Gold Coast Africans, that a policy of using "stabilized swish" would be more economical and would tend to a quicker solution of the problem. "Swish" is simply the name for the traditional indigenous mud form of building; "stabilized swish" is a mixture of mud and cement.

Europe. In Europe the apparently insoluble housing problem created by war devastation was, nevertheless, being tackled with great energy. In France, in the Normandy



area where the fighting after D day was fiercest, vast reconstruction schemes were carried out; and, although the first emphasis was naturally on essential social services, considerable headway was made in providing new homes.

In Germany, in towns such as Hamburg, which, apart from the town centre round the Alster lake, was reduced to



The Pimlico housing estate, Westminster, where for the first time in Britain exhaust heat from a power station would be used for space and water heating. In the centre can be seen the framework of the heat accumulator.

utter devastation in which a few families, nevertheless, contrived to live in single basement rooms that here and there had survived the general ruin, considerable housing projects had been and were being carried out. In the meantime every make-shift expedient was being adopted and many multi-storied air raid shelters were now being used as dwelling houses, with one family to each tiny cubicle. In spite of the appalling overcrowding which existed in these shelters, the disease rates were remarkably low and no epidemic of any kind had yet taken place. In Poland the policy of reconstruction of war-devastated Warsaw was carried out at almost incredible speed and a complete new city was far advanced. In Switzerland the housing projects carried out by the cantons and the municipal authorities continued to be models for the rest of the world. It was a standard practice in Swiss housing schemes to provide a basement for each house, which was not used for living accommodation but which contained a washing and laundry room equipped with mechanical washing machines and other labour-saving devices, a store room for fruit and vegetables and a work room for the man of the house. In Switzerland houses were built for owner occupation, usually on the co-operative principle. A member of the co-operative paid a sum of about £100 towards the cost of constructing his house and the rest of the money was borrowed. He was then granted a lease of his house for 40 years and during that period he paid off the mortgage; although the house was leasehold he had the right to bequeath it in his will and at all times had the right to sell the house. But if he decided to sell he had to sell it to the co-operative itself. A feature of the Swiss housing scheme was that each housing project had as its centre a nursery school, again a model of graceful, human and elegant building, staffed by trained teachers and with ample garden and playing accommodation. (G. McA.)

United States. Work was started on more than 1 million new family dwelling units of all types, exclusive of farm housing, in the U.S. during 1949. After lagging behind the 1948 monthly totals up to the end of June housing construction figures rose sharply to establish new records for each of the last six months of 1949 and a record total for the year. The previous record of 937,000 units established in 1925 was exceeded by more than 60,000 units.

Contributing factors in this increase were lower residential construction costs, the easing of mortgage financing, a substantial increase in the production of rental units and a greater emphasis on the lower-cost house. By Aug. 1949 residential construction costs were reported by the Housing and Home Finance agency to be at the lowest level for 20 months and almost 8% below the Oct. 1948 peak, as measured by the Department of Commerce national index. The Bureau of Labour Statistics calculation of the average cost of producing privately financed one-family houses, begun in June 1949, amounted to $7,675—exclusive of land, site improvements, selling expense, profit and other non-construction items—as compared with a June 1948 estimate of $8,050. The comparable figure for 1940 was $4,075.

The availability of mortgage funds, which had been shrinking since the autumn of 1948, particularly with regard to G.I. (servicemen) home loans carrying a maximum 4% interest rate, received a powerful impetus in July. The secondary market for G.I. and F.H.A. (Federal Housing administration insured) mortgages was increased by 50% when congress gave the Federal National Mortgage association (more popularly known as Fanny May) an additional $500 million for the purchase of such mortgages. Fanny May's previous limit of $1,000 million was almost exhausted when congress acted.

At the same time, congress extended F.H.A.'s authority to insure 90% mortgages on rental housing under Title 608 which undoubtedly contributed substantially to the rise in the construction of apartments. The 1949 building of rental units constituted 25% of the record home building total and was the highest for any year since the 1920s. In the first 10 months of 1949, F.H.A. received applications for mortgage insurance on rental projects totalling 198,194 flats as compared with 53,597 in the same period of 1948.

On July 15, 1949, President Truman signed the Housing act of 1949 marking the end of a bitter struggle between the

supporters and opponents of public housing which had raged over a four-year period, throughout one presidential and two congressional election campaigns. The act greatly expanded the programme for government financed and subsidized housing for low-income families, initiated a plan and authorized substantial funds for federal aid to communities in rebuilding slum and other blighted areas and provided federal loans and grants for farm housing.

The main feature of the new law was the public housing section which authorized the construction of 810,000 dwelling units for low-income families over a six-year period and provided grants of up to $308 million annually for 40 years to bring rentals down to within the financial means of such families. With some modifications, the law of 1949 extended the U.S. Housing act of 1937 under which 191,000 dwelling units for low-income families had been built. The 1949 act set a cost limit of $1,750 a room for public housing constructed under its provisions which might be increased by not more than $750 in areas where the cost of construction was especially high.

By the end of the year the Public Housing Administration had approved preliminary loans to 227 cities to start planning a total of 221,390 public housing units. Between 60,000 and 80,000 units were scheduled for construction in 1950 with full programmes of 135,000 to 150,000 to be built annually in the years from 1951 to 1955.

Even before the new public housing programme was enacted, attention turned to the housing needs of families with incomes above the limits set for public housing but not sufficiently high to enable them to rent or buy housing in the open market. Union labour groups joined with housing, civic and welfare organizations to urge for such families a programme of co-operative housing aided by low-interest, long-term government loans. A bill embodying this programme was introduced in the 1949 session of congress but made little headway.

The first substantial step in moderating wartime controls was taken with the enactment by congress of the Housing and Rent act of 1949. Controls were continued until June 30, 1950, but with two important modifications: municipalities or entire states could be released from federal rent control by the action of their governing bodies; and landlords could be granted increases in rent where it could be proved that they were not receiving a fair operating return. From April 1, when the new law became effective, to Dec. 9, four states, Nebraska, Texas, Arizona and Utah, as well as a number of municipalities, were released from control by this procedure. The Federal Housing expediter released others on his own initiative so that just before the end of 1949 a total of 2,587,000 family dwelling units had been released. In the case of two localities, this action resulted in such large rent increases that the communities requested the re-establishment of controls. From April 1 to Sept. 30, a sufficient number of rent increases had been granted under the fair operating return formula to affect 352,037 dwelling units. The increases averaged 19%.

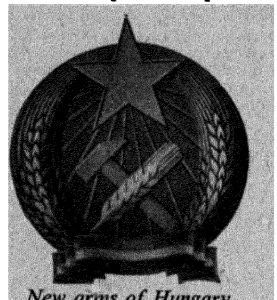
The Lustron prefabricated steel house, into which the government had put $37·5 million in R.F.C. (Reconstruction Finance corporation) loans, became a congressional storm centre in mid-summer and was in arrears on repayments at the year's end. Further R.F.C. loans were cut off following the congressional inquiry.

Housing research received considerable impetus with the passage of the Housing act of 1949 and the formation under its provisions of a Division of Housing Research as one of the major components of the Housing and Home Finance agency. An initial budget of $2,333,000 was allocated. (*See* also BUILDING AND CONSTRUCTION INDUSTRY; LOCAL GOVERNMENT; TOWN AND COUNTRY PLANNING.) (H. M. P.)

HOXHA, ENVER, Albanian politician (b. Gjinokastër, Albania, Oct. 16, 1908), prime minister from Jan. 11, 1946, commander in chief of the Albanian army from July 1944 and secretary general of the Albanian Communist party from 1943, except for the period from Jan. 11, 1946, to Oct. 6, 1948, when this post was occupied by Koçi Xoxe (*see* OBITUARIES). (For his early career see *Britannica Book of the Year 1949.*)

From March 21 to April 10, 1949, he was in Moscow, and on April 1 Joseph Stalin gave a dinner in his honour. On July 10, at Tirana, on the Albanian Army day, he thanked the Soviet army for protecting the peoples of the world from "bloodthirsty imperialists." Addressing the 2nd convention of Albanian trade unions he said that Tito, whom he described as an "American spy," helped by his agent Xoxe, tried to transform Albania into a "colony." On Nov. 24, Hoxha, self-appointed colonel general, was promoted army general by a decree of the presidium of the National Assembly.

HUNGARY. A people's republic of southeastern Europe bounded on the W. by Austria, on the N. by Czechoslovakia, on the E. by Rumania, and on the S. by Yugoslavia. Area: 35,893* sq. mi. Pop.: (Oct. 1938 est.) 9,021,000; (1948 est.) 9,165,000. Languages (1947 est.): Hungarian 92·9%; German 5·1%; Slovak 0·8%; Serbo-Croat and Slovene 0·6%; Rumanian 0·2%. Religions (1947 est.): Roman Catholic 65·6%; Greek Catholic 2·5%; Calvinist 20·8%; Lutheran 6%; Greek Orthodox 0·4%; Jewish 4·3%. Chief towns (1941 census): Budapest (cap., 1,164,963; [Dec. 31, 1948 est.] 1,058,288); Szeged (136,752); Debrecen (125,933); Miskolc (109,433); Kecskemét (87,269); Pécs (78,512). Chairman of the presidium of the National Assembly, Arpád Szakasits; prime minister, István Dobi (*q.v.*); ministers of foreign affairs in 1949: László Rajk (*see* OBITUARIES) and (from June 10) Gyula Kállai.



New arms of Hungary.

History. A new Five-Year plan, to replace the Three-Year plan ending in 1949, was announced at the beginning of the year. Its aims were summarized in a speech by the Communist party's chief economic organizer, Ernö (Singer) Gero, in a speech on April 13, 1949. Total investment over the five years 1950-54 was to be F.35,000 million, six times the amount invested in the Three-Year plan. Slightly less than half was to go to industry, and about one-third to agriculture and communications. Total industrial output in 1954 was to be 80% higher than in 1949 and 130% higher than in 1938. Output of iron and steel was to be nearly doubled during the five-year period, rising to 1·5 million tons in the last year. Aluminium output, based on Hungary's rich bauxite deposits, was to be doubled, and there were to be great increases in electric power, building and chemicals. In agriculture the use of artificial fertilizers was to be trebled and it was hoped to increase crop yields by an average of 27%. Mechanization of agriculture was expected to release cattle used as draught animals and so to raise the milk output by a quarter.

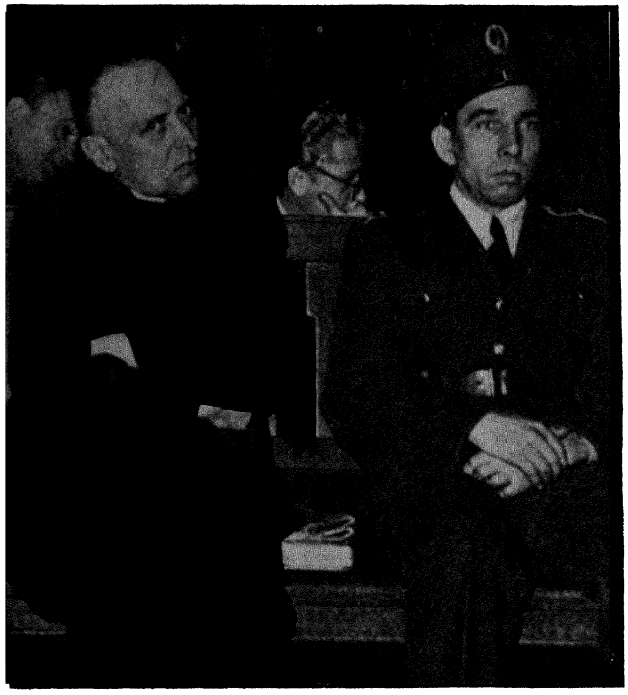
Official figures during 1949 gave the expected percentage figures of production, showing that the Three-Year plan targets had been exceeded considerably ahead of time. It was, however, admitted that results in some branches of industry were not as good as the all-round figures. The impression of independent western observers was that considerable progress had been made and that living conditions

* Excluding the so-called Bratislava bridgehead (*see* CZECHOSLOVAKIA).

substantially improved during 1949. Whereas the conditions of the Czech workers had deteriorated, those of Hungarian workers were much better than in 1947.

Collectivization of agriculture was the avowed aim of policy, but was cautiously pursued. The Five-Year plan did not specify what proportion of agriculture should be collectivized by 1954. In August there were 550 collective farms in Hungary. In March 1949 the Communist leader Mátyás (Roth) Rákosi (*q.v.*) warned against both right-wing and left-wing " deviations." The former consisted in excessive tenderness to medium and wealthy peasants, leading to a neglect of the interests of the poorest peasants who were the natural allies of the proletariat. The latter consisted in indiscriminate attack on all but the poorest peasants. This merely drove the medium peasants, whose friendship to the traditional Leninist-Stalinist doctrine should be secured, into the arms of the *kulaks*. Pursuit of the left-wing deviation was liable to unite the majority of the peasantry against the government. Hungarian Communist periodicals quoted with disapproval cases of mob violence against *kulaks* or alleged *kulaks* which had made the government unpopular. (*See* also PEASANT MOVEMENT.)

The year opened with the conflict between the government and the Roman Catholic Church, centred round the trial of Cardinal József Mindszenthy. The cardinal, arrested in Dec. 1948, was accused of treason, conspiracy with foreign enemies of the republic and offences against the currency laws. The specific charges in the published indictment for the most part amounted to talk hostile to the government, which in western countries would not be regarded as treason. Of the cardinal's obstinate hostility to the regime and determination not to trust the government's promises from the first days in 1945, there had never been any doubt: and events had to a large extent justified both the obstinacy and the distrust. The trial opened on Feb. 3. The cardinal confessed that he was " essentially " guilty of the offences with which he was charged, declared that he felt an agreement between Church and government to be essential and hoped that his person would not stand in its way. He was sentenced to life imprisonment. At the parliamentary elections in May the hierarchy did not object to Catholics going to the polls. But the conflict remained as irreconcilable as before.



Cardinal József Mindszenthy seen during his trial in Budapest, Feb. 1949. He was found guilty and sentenced to life imprisonment.



László Rajk, former foreign minister, during his trial on charges of treason in Budapest, Sept. 1949. He was found guilty, sentenced to death, and hanged on Oct. 15.

Elections were held on May 15. Unlike the Hungarian elections of 1945 and 1947, those of 1949 were of a truly " popular democratic " type; 95% of the electorate was declared to have voted (*see* ELECTIONS).

The new parliament adopted a new constitution, closely modelled on those of the " people's democracies " and the Soviet Union. On Aug. 23 the National Assembly elected the presidium of the people's republic (21 members) of which Arpád Szakasits was the chairman.

A purge of the United Workers' party was carried out in the first months of 1949: 17% were removed from full membership but many of these were allowed to remain as " candidates." The sensation of the purge was the " unmasking " of László Rajk, a prominent Communist and former minister of the interior, as a nationalist deviationist and agent of the " western imperialists." With him were arrested a leading left-wing Social Democrat intellectual, Pal Jusztusz; the former head of the Communist party's cadres section, Tibor Szönyi; the former chief of the political section of the general staff, Lieut. General György (Oesterreicher) Palffy, and the former counsellor of the Yugoslav embassy in Budapest, Lazar Brankov. The trial, which opened on Sept. 16, was above all an indictment of the Tito regime in Yugoslavia. Brankov gave evidence that already during the war Tito was working for the British secret service against the Soviet Union. Rajk confessed to all the accusations, including that of having worked for the political police of the prewar Horthy dictatorship and of having gone to fight in Spain for the republic merely in order to undermine the anti-fascist movement and help the Axis. The incredibility of the charges, contradictions between the alleged facts and willingness of the victims to confess on all points, made the Rajk trial much more similar to the Moscow trials

of 1936-37 than any of the other "conspiracy" trials that had so far been staged in eastern Europe. It was therefore a landmark in the development of both the political system of the "people's democracies" and of Soviet policy towards Yugoslavia. (H. S.-W.)

Education. (1949) Schools: elementary 1,432 and general 4,770, pupils 1,220,000; secondary 388, pupils 83,000 Universities (8) and institutions of higher education (8), students 28,000 Illiteracy (1941): 6 0%.

Agriculture. Main crops ('000 metric tons, 1948): wheat 1,579, maize 3,201; barley 696; rye 780, oats 332, sugar, raw value, 153; rice 39, potatoes 2,699; tobacco 23; linseed 6 Livestock ('000 head, May 1948) pigs 2,499, cattle and buffaloes 1,804; sheep 591, horses (Feb 1949) 569

Industry. Fuel and power. coal and lignite ('000 metric tons, 1948) 10,613, natural gas ('000 cu. ft., 1947) 3,560,000, crude oil ('000 metric tons, 1947) 570. Raw materials ('000 metric tons, 1947) iron ore, metal content, 244, pig-iron 304, steel ingots and castings 596; bauxite 340, manganese ore 50 Manufactured goods (1947) cotton piece-goods (million m.) 126, cotton yarn ('000 metric tons) 21, wool yarn 6 0; cement 199

Foreign Trade. (1948) Imports 1,975 million forints, exports 2,965 million forints

Transport and Communications. Roads (1949) 10,248 mi Licensed motor vehicles (Dec 1948). cars 15,282, commercial vehicles 12,317. Railways (1948) 5,173 mi., passenger-mi 2,987 million; freight net ton-mi. 2,037 million Danube shipping (Dec 1947) merchant vessels 514, total tonnage 118,717. Telephones (1948) subscribers 106,768 Wireless licences (Dec 1948): 475,000.

Finance and Banking. (Million forints) Budget: (1950 est.) revenue 17,537, expenditure 17,454 Currency circulation (Sept 1949, in brackets, Sept. 1948): 3,307 (2,628). Gold reserve (Aug 1949; in brackets, Aug 1948) 37 (34) million U S dollars Savings and bank deposits (Sept 1949; in brackets, Sept. 1948): 5,336 (2,180) Monetary unit: *forint* with an official exchange rate of F.32·87 (47·31 before Sept. 18, 1949) to the pound.

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ICE HOCKEY. The 1948-49 season was the best season recorded with attendances showing a considerable increase over 1947-48. The senior English competitions included eight teams with the re-entry of the prewar club Earls Court Rangers. The prewar international tournament was resumed with the entry of the Racing club team from Paris. The Autumn cup was won by Wembley Monarchs with Harringay Racers as runners-up; the international tournament by Wembley Monarchs with Nottingham Panthers as runners-up; and the major competition, the National league, by Harringay Racers with Streatham as runners-up.

In Scotland the Autumn cup was won by Fyfe Flyers with Falkirk Lions as runners-up; the Canada cup by Falkirk Lions with Fyfe Flyers as runners-up; and the National league by Fyfe Flyers with Falkirk Lions as runners-up.

The 1948-49 season showed progress in the development of purely British players and for the first time a special Northern Amateur tournament was organized at Durham. Nine Scottish teams and six English teams competed and Dunfermline Royals won the trophy.

The 1949-50 season started in September and attendance figures showed a considerable increase over the previous season. Harringay Greyhounds dropped out of the English competitions but the remaining seven teams anticipated playing 50% more home games than previously. (J. F. A.)

United States and Canada. The Toronto Maple Leafs became in 1949 the first team in history to capture the Stanley cup three straight seasons when it routed the Red Wings of Detroit, Michigan. Placed only fourth in the regular National Hockey league, Toronto furnished a major upset by beating the circuit's title winners in four games.

Although Detroit had won the regular league race by a good margin, it was hard pressed in the semi-finals for the Stanley cup, and in the final series Toronto stopped the Wings by 3—2 in an overtime period, 3—1, 3—1 and 3—1.

Toronto reached the last round by halting Boston's Bruins, four games to one. The Leafs triumphed 3—0, 3—2, 3—1 and 3—2, Boston taking only the third contest, which was decided at 5—4 in overtime.

Montreal's Canadians carried Detroit to seven games in their semifinals. Detroit, however, got off to a fast start in the deciding meeting on its home ice to win, 3—1, for the right to face Toronto in the cup finals. (T. V. H.)

ICELAND. An island republic of the north Atlantic. Area: 39,768 sq. mi. Pop. (Dec. 31, 1948) 138,502. Capital, Reykjavik, the only large town (pop., 1948 est., 53,384). Language: Icelandic, closely akin to Norwegian. Religion: Lutheran. President of the republic, Sveinn Bjornsson; prime ministers in 1949, Stefán Jóhann Stefánsson and (from Dec. 6) Olafur Thors.

History. Iceland seemed to discard, almost painlessly, her characteristic caution when the invitation to join the North Atlantic treaty was accepted by the Althing on March 30, 1949, only 10 Communist deputies voting against 37 in favour (2 abstained). However an Icelandic mission to Washington (March 13-19), led by the Conservative minister of foreign affairs, Bjarni Benediktsson (*q.v.*), had included Eysteinn Jónsson, the Agrarian (Progressive) party air minister, and Emil Jónsson, the Social Democratic minister of trade, and discussions on the treaty had been held within the framework of Benediktsson's statement that his government would not allow foreign military bases on their territory in peacetime. On his return the foreign minister declared that the country's attitude was understood in view of their complete disarmament and it was clear that no national army nor other forces were contemplated as a result of this new step.

At the first meeting of the Council of Europe, Iceland, which had been prevented by provisions in its constitution from sharing in the council's foundation, was among the countries invited (Aug. 8) to join the original 10 powers and was allotted 3 representatives. Inter-Scandinavian co-operation and consultation were also expressed in various forms during 1949. The Icelandic Trade Union federation, despite its large Communist element, decided to withdraw from the World federation at the same time as the Danish, Norwegian and Swedish sister organizations. On Sept. 12-13 the foreign ministers of the same four states met in Copenhagen and adopted a common policy about several points on the U.N. general assembly agenda and on the problem of South Schleswig (*see* DENMARK), the Icelandic minister in London later accompanying the Norwegian and Swedish ambassadors to the British Foreign Office (Nov. 2) to support Denmark's case.

Economic conditions caused rising anxiety in 1949. Foreign dollar and sterling reserves were nearly exhausted, two summer herring seasons had gone badly, export industries faced financial difficulties, queues were long and even necessities, especially textiles, scarce. Imports had been cut down but exceeded exports in value by Kr.55 million between January and June (total 1948 excess: Kr.61 6 million). Although wages were pegged to the cost of living, which still rose, there were strikes on trawlers, among transport workers and also among unskilled workers (June); some trades were over-filled, others short of labour. Inflation threatened to bring, in spite of heavy taxes, higher tariffs and new sacrifices. It was the Agragrians who finally insisted on the recall of the Althing from its summer recess or a general election; and the other two coalition parties preferred the second alternative (*see* ELECTIONS). As it proved impossible to form another coalition Olafur Thors formed a Conservative minority government on Dec. 6.

The president of Iceland was elected "by acclamation" for a third term of four years on June 20, with the support of Conservatives, Agrarians and Social Democrats, the Communists neither opposing nor supporting his candidature.

Luftur Gudmundsson wrote and produced Iceland's first film drama. The play *The Golden Gate*, by David Stefánsson, ran for over 100 performances in Reykjavík, and in Gathorne-Hardy's translation was well received in Edinburgh.

Education. Schooling from 7 to 14 is compulsory, but children may be educated at home up to 8 or 10 years of age, where communications are very difficult. Besides an elementary and a day or boarding school in every district, there were (1946) 10 state and 2 private secondary schools In 1948 there were 556 students at the University of Iceland. No illiteracy

Agriculture and Fisheries. Agricultural products were subsidized, but the flight from the land continued, with about 1,000 of Iceland's 6,500 farms deserted (a third during the last six years) and 58 3% of the population living in towns The mechanization of agriculture, irrigation schemes and plant and animal-breeding research continued, and the emphasis was shifted from sheep-breeding to dairy farming. Giant hot-houses for vegetables and flowers built near natural hot-springs did well and tomatoes were flown to London for sale The main livestock (1947-48 est.) were 38,000 head of cattle, 540,000 sheep and 60,000 horses

In 1949 (Jan -July) 187,733 metric tons of fish were landed in Iceland (Jan -July 1948, 277,456); fish exported iced, in fishing vessels, weighed 75,492 tons (Jan -July 1948, 78,056), in cargo vessels 9,534 (Jan -July, 1948, 7,132), fish frozen 67,190 (Jan -July 1948, 65,815) and fish used for oil and meal 4,216 (Jan -July 1948, 101,048)

Industry. The first 4-year plan completed, the second (approved by parliament, Oct 1948) provided for an investment of Kr 542 8 million, mainly in harnessing numerous waterfalls power stations would cost Kr 130 million, power lines Kr 40 million, and when available would run projected plants for cement, artificial fertilizers and the refining of herring oil

Foreign Trade. ('000 krónur) Imports (Jan -June 1949) 206,042 (Jan -June 1948, 208,472), exports 151,029 (Jan -June 1948, 198,770) The largest supply countries in 1949 were Great Britain, the U S, Denmark and Venezuela, the best customer countries were Great Britain, Germany, Italy and the Netherlands

Transport and Communications. Iceland has no railways, but in 1948 there were 6,268 km. of highways, 5,500 motor cars, 4,372 lorries, 262 buses and 570 motor cycles Under the new 4-year plan, 12 new trawlers would be added to the restored fishing fleet, and Kr 70 million would be spent on new freighters, to deal with much increased traffic (in 1947 over Kr 50 million was paid out for freight on foreign ships)

Finance and Banking. (Million krónur) Budget (1950 est) revenue 263, expenditure 226 Notes in circulation (June 30, 1949) 157 3 Deposits on current accounts and savings accounts (June 1949) 592 8 Monetary unit *króna* (pl *krónur*) Exchange rate £1 = Kr 26 22, U S $1 = Kr 9 36½ (before devaluation, Sept 19, 1949, $1 = Kr 6·50½)

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ICE SKATING. During the season 1948-49 there was no opportunity to hold outdoor speed skating championships in England but a full programme of championships and competitions on indoor ice took place. The British amateur championships in the international style of figure skating were held at the Wembley rink; the winner of the ladies' title was Jeannette Altwegg, and of the pairs, Mr. J. and Miss J. Nicks. The events for professionals, held at Brighton, were won by H. Alward (men's), June MacDonald (ladies') and F. Leemans and Miss E. Collin (pairs).

The European championships in figure skating were held at the Ice palace, Milan, in Jan. 1949; the men's title was won by E. Rada (Hungary), the ladies' by E. Pawlik (Austria) and the pairs' title by the Hungarians, E. Kiraly and Miss A. Kekessy. The world championships for these events were held in Feb. 1949 at Vélodrome d'Hiver, Paris. R. Button (U.S.A.) successfully defended his title, the ladies' championship was won by A. Vrzanova (Czechoslovakia) and the pairs' title by the European champions mentioned above. Jeannette Altwegg (Great Britain) was third in both the European and world ladies' championships. The European championship in speed skating was held at Davos and was won by S. Farstad (Norway) and the world championship, held at Oslo, was won by K. Pajor (Hungary). (E. G. Cs.)

United States. Richard Button of Englewood, New Jersey, men's Olympic and world figure-skating title holder, won the North American championships at Ardmore, Philadelphia, and the United States meet at Colorado Springs, Colorado. Yvonne Sherman, New York city, capped several years of effort by winning the senior women's division of both the North American and national title tests.

A list of United States title winners follows: Button, senior men; Sherman, senior women; Karol Kennedy and Peter Kennedy of Seattle, Washington, senior pairs, Lois Waring of Baltimore, Maryland, and W. H. Bainbridge of Washington, D.C., gold dance team; Vera Elliott and Rex Cook of New York, silver dance team; Sonya Klopfer of New York city, junior women, Richard Dwyer of Los Angeles junior men; Tenley Albright of Boston, novice women; and Hugh C. Graham of Tulsa, Oklahoma, novice men.

Three titles fell to Ray Blum, veteran competitor from Nutley, New Jersey, in men's speed skating. (T. V. H.)

IFNI: *see* SPANISH COLONIAL EMPIRE.

IMMIGRATION AND EMIGRATION. Great Britain. Movement of United Kingdom citizens out of, and of aliens into, the United Kingdom continued throughout 1949. Only a small percentage of the emigrants failed to settle, and consequently returned home. How many of the immigrants would remain permanently could not be determined. During the period Jan. 1946-Jan. 1949 some 278,000 British emigrated to Canada, Australia, New Zealand, South Africa and Southern Rhodesia, while more than 4,000 aliens also left Britain. Some 140,000 British were registered as desiring to emigrate, and about 11,000 Poles were undecided as to whether to stay or move on.

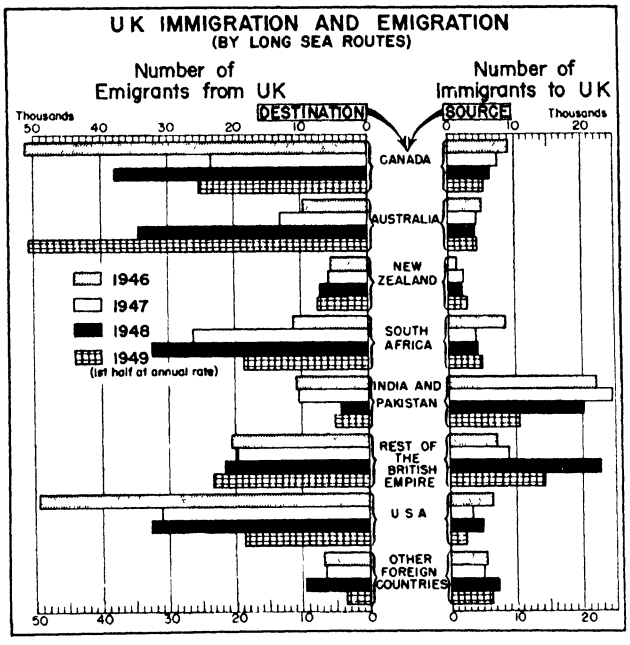
By the middle of 1949 the number of foreign workers brought in for special labour needs totalled 200,000, and a further 13,000 were considered necessary for Britain's labour force. Fifteen thousand five hundred of the 200,000 were displaced persons from central Europe brought in under operation "Westward Ho" and about 9,000 were women who had come in under the "North Sea scheme" for nursing and domestic services and textile work. The last named alien workers were due to return home in 1951-52.

Germany. The refugee problem in Germany was a question not of refugees as defined by international convention, but of German nationals expelled from Czechoslovakia and the eastern territories under the Potsdam agreement. The population situation was aggravated by the steady influx amounting to an average of 28,000 persons a month crossing the borders between the eastern and western zones of occupation.

In addition to the outward movements under the British Ministry of Labour schemes already mentioned, the United States made administrative arrangements to accept 28,000 immigrants from Germany; these were to include 14,000 Volksdeutsche, 7,000 occupation brides and 7,000 unclassified immigrants.

Australia, with an immigration figure which aimed at bringing the population up to 20 million agreed to accept 12,500 displaced persons yearly, offering them the possibility of attaining Australian citizenship after five years' residence. The displaced persons included Poles, Balts, Czechs, Yugoslavs, Rumanians and Sudeten Germans The figure set for migration from Great Britain to Australia for the year 1949 was 70,000 and more transport was made available for this purpose. Welcoming the 100,000th postwar settler from Britain A. A. Calwell, the Australian immigration minister, said he looked forward to receiving millions of other Britons to assist the future development of the commonwealth.

Canada expected a total immigration of 100,000 to include 20,000 from Great Britain. The government accepted 500 Estonians from Sweden and, in order to balance the French-Canadian population, made especial, but not very successful, efforts to secure immigrants from France.



New Zealand in a humane gesture offered to accept 1,000 of the displaced persons, to include 200 children, 300 single women (mainly for work in hospitals), 50 mothers or widows and 80 elderly persons.

South Africa slowed down immigration from Great Britain but began to accept Germans from Germany.

Within the British Commonwealth there were also minor movements like the move of 400 British subjects from Malta to Cyprus. The question of the under-population of the West Indian colonies had been raised, and the suggestion was made that some 100,000 immigrants, not necessarily European, should be brought in.

Israel. The British mandate over Palestine ended on May 14, 1948. Up to that time there was limited immigration, though the numbers were often exceeded by means of illegal entries, not all of which could be estimated and allowed for in permits for succeeding periods. In the unrest and warfare which rent Palestine before and after the withdrawal of the mandatory power some 600,000 Arabs were driven from, or left, their homes and villages.

On June 9, 1948, the Israeli foreign minister announced that the new government did not envisage "any measure preventing or delaying the entry of Jewish immigrants to Israel irrespective of age or sex." The number of immigrants in that same month was 1,133. In July 1948 it was 12,687. For the remaining months of 1948 the average monthly figure was 15,507. In 1949, the total number of admissions was 239,171. The immigrants came from not less than 43 different countries of origin, the largest contingents being from Turkey, Tunisia, Morocco and Algeria (these last three countries grouped together), Poland and Czechoslovakia, with large numbers in the early months of the year from Bulgaria and Rumania. (B. L. B.)

United States. There were about 88 million admissions into the U.S. during the year ended June 30, 1949. Almost 97% of these, however, were of citizen and alien border crossers, many of whom made frequent crossings.

Arrivals and departures during 1948 and 1949, exclusive of border crossers, crewmen and agricultural labourers, were as reported in the Table.

The continued economic prosperity of the United States and the disturbed political situation in many other countries were factors that led to further increases in immigration to the United States. Immigrant aliens admitted for permanent residence numbered 188,317—the largest number since 1930.

The total authorized immigration quota for all countries—153,929—was 73·4% filled, 113,046 quota immigrants being admitted to the United States. Included in the number of quota immigrants admitted were 39,734 displaced persons, who were admitted under the Displaced Persons act of 1948.

The principal countries from which immigrants came during the year ended June 30, 1949, were as follows: Germany 23,844; Great Britain 19,050; Poland 23,744; Italy 11,157; other European countries 60,506; Canada, including Newfoundland, 21,515; Mexico 7,977; West Indies 6,518; South America 2,639; Central America 2,493; Philippines 1,068; Asia 5,287; Africa 737; Australia and New Zealand 602; other countries 1,180; total 188,317, of whom 113,046 were quota immigrants.

ARRIVALS AND DEPARTURES OF ALIENS AND CITIZENS IN THE UNITED STATES DURING FISCAL YEARS ENDED JUNE 30

	1949	1948
Arrivals:		
Aliens admitted	635,589	646,576
Immigrant	188,317	170,570
Non-immigrant	447,272	476,006
U S. citizens	620,371	542,932
Aliens debarred	3,834	4,905
Departures		
Aliens departed	430,089	448,218
Emigrant	24,586	20,875
Non-emigrant	405,503	427,343
U S citizens	552,361	478,988

Aliens admitted for a temporary stay and resident aliens returning from abroad numbered 447,272. The decrease from 476,006 temporary admissions in the previous fiscal year was due largely to the smaller number of visitors for pleasure who came to the United States during the year.

There were 430,089 aliens who departed from the United States. Of these 24,586 were emigrants, or aliens who left a permanent residence in the United States for residence elsewhere; 22,354 resident aliens and six treaty traders planned to return to the United States after a temporary sojourn abroad, and 383,143 aliens admitted for temporary periods departed for residence abroad. (*See* also ALIENS; REFUGEES.) (W. B. MI.)

INCOME AND PRODUCT: *see* NATIONAL INCOME.

INDIA, DOMINION OF. A self-governing member of the Commonwealth of Nations in southern Asia comprising 9 provinces, 12 centrally administered areas and 9 Indian states' unions. Area: *c.* 1,243,886 sq. mi., including Kashmir.* Pop.: (1941 census) 320,387,000, (1948 est.) 342,114,000. As a result of the partition of the Indian sub-continent in Aug. 1947, by the end of 1948 nearly 5,363,000 non-Moslems entered India and about 6,599,000 Moslems migrated to Pakistan. Languages fall into two main groups: Aryan or northern (Hindustani or Hindi, Marathi, Punjabi, Gujarati, Bengali, etc.) and Dravidian or southern (Telugu, Tamil, Kanarese, etc.); on Sept. 14, 1949, the Indian Constituent Assembly decided to retain English as the official language of the union, to be displaced by Hindi in Devanagari script within 15 years. Religions: mainly Hindu, with Moslem, Christian, Sikh, Buddhist, Parsee, Jewish and other minorities. Chief towns (1941 census): Delhi (cap. 521,849); Calcutta (*q.v.*) (2,108,891); Bombay (1,489,883); Madras (777,481); Hyderabad (739,159); Ahmedabad (591,257); Cawnpore (487,324); Amritsar (391,010); Lucknow (387,177). Governor-general, Chakravarti Rajagopalachari; prime minister and minister for external relations, Pandit Jawaharlal Nehru (*q.v.*); deputy prime minister and minister of the interior, Sardar Vallabhbhai Patel (*q.v.*).

*Area of the disputed territories of Jammu and Kashmir: 82,258 sq. mi.; pop. (1941 census). 4,021,600.

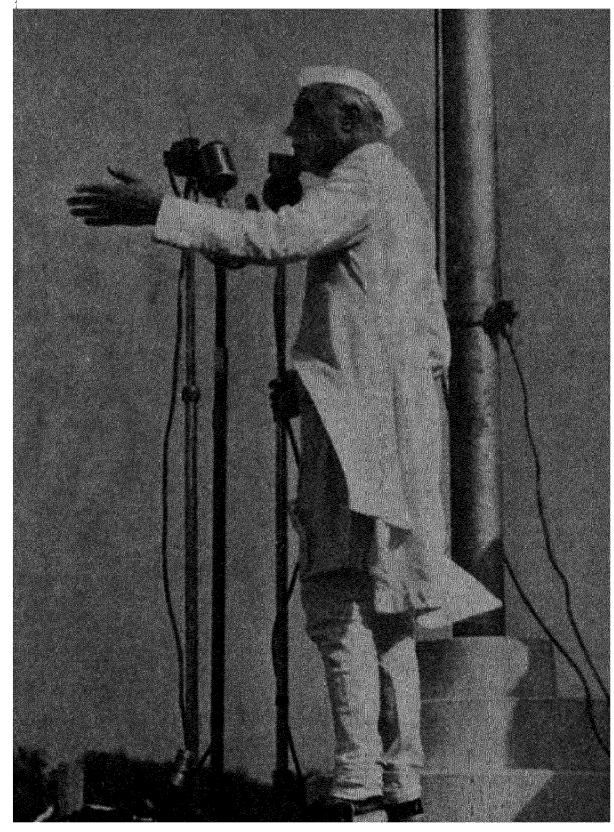
History. The principal event of the year from the political point of view was the conference of Commonwealth prime ministers held in London in April. They came to the unanimous decision that, after becoming a sovereign independent republic in Jan. 1950, India would continue in the interests of world peace to be a full member of the Commonwealth of Nations. The King would remain the symbol of the free association of its independent member nations and, as such, the head of the Commonwealth. This solution of a delicate problem met with general approval. Dr. Rajendra Prasad, president of the Indian Constituent Assembly, expressed the general opinion of the country when he said: " We wish to remain on the friendliest terms with Great Britain, so long as our sovereignty and independence of action are not affected in any way . . . I am personally satisfied with the formula which has been evolved." This result was looked on as a diplomatic success for Pandit Nehru and Clement Attlee. Under existing arrangements, India would be proclaimed an independent sovereign republic on the next Remembrance Day, Jan. 26, 1950. India would be known in future by the ancient Hindu name of Bharat.

Other important changes were made in the draft constitution. The village *panchayats* or councils were to be organized as units of self-government, and the *zemindars* or landlords were to be gradually expropriated, with due compensation, in order to bring about direct relationship between the state and the cultivators. The judiciary and the legislature were to be separated and appeals to the Privy Council abolished. Communal representation in the legislatures and representation for religious minorities were rejected on the grounds that they were opposed to the conception of a secular state and that the fundamental rights of all citizens guaranteed by the new constitution were so conclusive as to render them superfluous. A prolonged and often bitter controversy on the adoption of a national language and numerical system was ended by a resolution favouring the retention of English for the next 15 years as the official language of the Indian union, after which it would be replaced by Hindi. " English," declared Pandit Nehru, " must continue to be a most important language in India, which a large number of people would learn, and perhaps learn compulsorily."

The Integration of the States. The absorption of the princely states reached its final stage under the forcible direction of Sardar Patel. It took three forms: mergers with adjacent provinces, grouping with other states and conversion into centrally administered areas. The two great Maratha states of Kolhapur and Baroda, with a population of 17·5 million and an area of about 100,000 sq. mi., were merged into the province of Bombay. Twenty-five, including the leading Moslem state of Bhopal, became centrally administered areas, while the bulk of the rest, covering an area of approximately 235,000 sq. mi. with a population of 37·5 million, were integrated into nine unions or groups, each under a *raj pramukh* or prince president. The most important of these was the Union of Greater Rajasthan, the rulers of which were the flower of the ancient Hindu aristocracy, dating back to pre-Moslem times. The unification of these proud and independent princes was an outstanding achievement in itself. The Maharaja of Bikanir became *raj pramukh* for life, while the venerable Maharana of Udaipur retained his position as titular head. In the far south, Travancore and Cochin were integrated into a single unit. India's constitution, as applicable to the states, was accepted by Mysore.



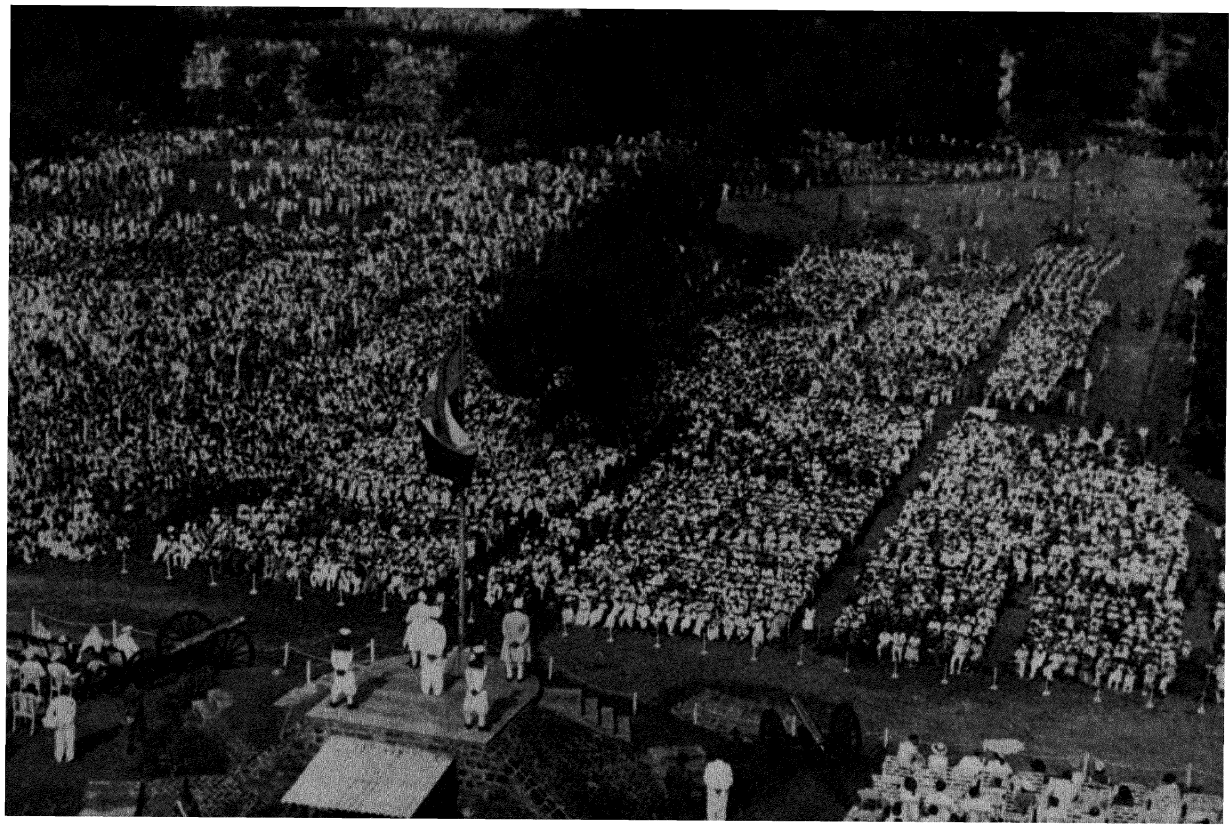
New Indian state emblem.


Pandit Nehru, addressing a large crowd at the Red Fort, Delhi, on Indian Independence day, Aug. 15, 1949.

All this involved radical changes in the status of the states and their rulers. Sweeping administrative reforms, including the integration of finances, were effected; the provinces and states were placed on an equal footing with the centre, and the states' forces were merged with the Indian army. The princes became constitutional rulers, and the limitation of their privy purses meant that their courts were shorn of much of the pomp and ceremony traditionally associated with them. Those who found themselves able to move with the times found ample scope for public service.

The Exception: Hyderabad. Hyderabad remained under the occupation of an Indian military force under General J. N. Chowdhury, assisted by a civil administrator, and the ultimate fate of the once premier Indian Moslem state was still undecided. Moslem rule was clearly doomed, and it seemed likely that Hyderabad would ultimately be partitioned, the eastern districts becoming part of the Telugu-speaking Andhra Desha, and the Maratha and Kanarese portions joining up with the Central Provinces and Bombay. General Chowdhury's task was not an easy one. He had to cope with outbreaks of violence on the part of Hindu mobs directed against Moslem officials in outlying districts and, what was more important, with serious Communist risings on the Madras border. Kazim Razvi, the Razakar leader, arrested in Sept. 1948, was put on trial for abetment of murder. On Nov. 24 the Nizam signed an instrument of accession to the Indian union, subject to its subsequent ratification by a representative assembly.

The Kashmir Dispute. In Kashmir, the year opened brightly with the announcement that a truce had been arranged. No one was more relieved than the members of the two armies, who had engaged with deep distaste in a fratricidal conflict



The large crowds at the Red Fort, Delhi, listening to Pandit Nehru, prime minister, on Aug. 15, 1949—the second anniversary of Indian independence.

with their old comrades in arms. Representatives of the United Nations Conciliation commission arrived in March, and visited the heads of the two governments at New Delhi and Karachi for consultation, and a distinguished U.S. naval officer, Admiral Chester W. Nimitz, was appointed plebiscite administrator. Proceedings were to be carried out in three stages: first, a cease-fire was to be proclaimed and the troops were to be withdrawn behind agreed lines; then law and order were to be restored and invaders who had crossed the border during the disturbances ejected; finally a plebiscite was to be held.

Each side, however, was deeply suspicious of the other and unwilling to forego the military advantages that it had gained, and matters were further complicated by authorized violations of the truce and by irresponsible utterances on the part of political leaders and the press. The main obstacle in the way of an agreement was the uncompromising attitude of the Indian government. Pandit Nehru and his advisers persisted in their claim that the maharaja, Sir Hari Singh, had legally acceded to the Indian union, and that Sheikh Abdullah was *ipso facto* the head of the government. On these grounds the government of India demanded the disbandment of the Azad forces (the Kashmir resistance movement) and reserved four seats for representatives from Kashmir in the Indian legislature. The government of Pakistan on its part declared that this was prejudging the issue. The question of expelling the two million Sikh and Hindu refugees as well as the tribesmen before holding the plebiscite had been evaded.

Trygve Lie's claim for the settlement of the Kashmir question as a success for United Nations was clearly premature, and matters reached such a deadlock by the end of August that President Truman and Attlee, in the interests of the peace and stability of the sub-continent, sent letters to both governments appealing to them to agree to the United Nations' proposals and accept Admiral Nimitz as arbitrator. The president pointed out that the only section likely to benefit from unrest in such areas as Kashmir, Indonesia and Indo-China was the Communists. Even when these difficulties were overcome, there remained the problem of carrying out a free and impartial plebiscite in a wild and mountainous country with a scattered and mostly illiterate population. The alternative of partition as the only lasting solution did not come up. On Sept. 17, Pandit Nehru announced that after due consideration the government of India rejected the United Nations' Kashmir commission's proposal for arbitration.

Communism. The Communist challenge remained the outstanding problem for the Indian government. The methods employed were the familiar ones of sabotage, arson and looting, and the chief aims of the Communists were the capture of the trades unions and the dislocation of the transport system by systematic attacks on the railways and other means of communication, regardless of the misery that this would inflict upon the masses. A mass rising planned for March 5 was forestalled by prompt and resolute action. One of the main storm centres was Calcutta, where unemployment was heavy. The government was forced to amend the labour laws with a view to preventing strikes in essential services. Matters became so alarming in August that Pandit Nehru made a series of tours in the worst affected areas, and this had a calming effect. But the movement was not confined to the cities, and in Bombay and Madras and adjacent districts of Hyderabad it assumed the proportions of an agrarian revolt, on lines only too familiar in Burma and

Malaya. Landlords and money lenders in outlying districts were killed, and the lands redistributed among the peasants.

Trade and Commerce. Despite these handicaps, considerable industrial progress was made. India in 1949 had seven air transport companies, operating 27 internal schedule services. Orders for 500 locomotives were placed in Canada and other countries, and more than 22 Indian ships, aggregating 150,000 tons, were plying between India, America and the United Kingdom. Large sums were spent by the Ministry of Rehabilitation on evacuation and relief, and steps were taken for the large-scale manufacture of prefabricated houses. It was decided not to import cereals, except in cases of emergency, after 1951, and a food production commissioner was appointed to co-ordinate work between the provinces. A number of multilateral river projects were under execution, the most important being the Damodar valley scheme.

The financial state of the country was generally sound, but in order to carry out her ambitious programme, India, like other countries, had to raise foreign capital, which could only be done by buying less and exporting more. For this reason India decided to follow sterling in devaluing the rupee, 75% of her trade being with countries in the soft currency area. Lasting progress was impossible until agreement, especially on the Kashmir dispute, had been reached with Pakistan and the disproportionate military expenditure thereby drastically curtailed. In October and November, Pandit Nehru paid visits to the U.S., Canadian and British governments. It was supposed that his main object was to discuss financial and political problems arising out of the devaluation of the pound and the Communist threat. In October India was elected to the U.N. Security council. (H. G. RN.)

Agriculture and Fisheries. Main crops (1948 in '000 metric tons): wheat 5,434; barley 2,528; maize 1,757; rice 28,748; cotton (ginned) 444; jute 368; tea 248; cottonseed 830; wool (greasy basis) 24; linseed 370; sesame 356·6; rapeseed and mustard 794; groundnuts 3,122; sugar (raw) 4,984; coffee 16. Livestock (1945, in '000 head): cattle 136,369; sheep 37,731; pigs 3,704; horses 556; asses 1,130; mules 44; goats 46,469; buffaloes 40,610; camels 655. Fisheries: total catch estimated at 700,000 tons annually.

Industry. Fuel and power: coal (1948, in '000 metric tons; 1949, six months, in brackets) 30,301 (15,996); electricity, (1948, in million kwh.; 1949, six months, in brackets) 4,579 (2,416); petroleum (1947) 65,192,235 gal. Raw materials (1948, in '000 metric tons; 1949, six months, in brackets): pig iron 1,487; steel ingots and castings 1,222 (671); rubber 15·7 (5·1); iron ore 2,450; superphosphates 21·7; aluminium 3·4; antimony 0·34; copper 5·9; lead 0·7; sulphuric acid 81; salt 2,370; caustic soda 4·4; soda ash 29. Gold (1948, in '000 fine ounces) 171·7. Manufactured goods (1948; 1949, six months, in brackets): cotton yarn (in '000 metric tons) 654 (318); cotton fabrics (million metres) 3,960 (1,824); rayon fabrics (million metres) 104·2; cement ('000 metric tons) 1,524.

Foreign Trade. (Million rupees) Imports: (1948) 5,188; (1949), six months) 3,386. Exports: (1948) 4,228; (1949, six months) 1,973. Principal imports (per cent of total imports, 1948): machinery and vehicles 24%; grain pulse and flour 13%; raw cotton 12%. Principal exports (per cent of total exports, 1948): jute manufactures 35%; tea 15%; cotton manufactures 10%. Main sources of imports (1948): United Kingdom 29%, United States 20% and Burma 4%. Main destinations of exports (1948): United Kingdom 23%; United States 17% and Japan 11%.

Transport and Communications. Roads (1948): 190,500 mi. Licensed motor vehicles (Dec. 1948): cars 141,346, commercial vehicles 97,791. Railways (March 1948): 33,985 mi. passenger-miles (1947-48) 33,644 million; freight net ton-miles (1947-48) 20,398 million. Shipping: total tonnage of the merchant marine approximated 300,000 in 1948. Air transport (1947; 1948, nine months, in brackets): miles flown 9·4 (9·2) million; passenger miles 138·8 (131·5) million; ton-miles goods traffic 1·3 (1·5) million. Telephones (April 1948): 115,331. Wireless licences (March 1947): 243,838.

Finance and Banking. (Million rupees) Budget: (1948-49 est.) revenue 2,305, expenditure 2,574; (1949-50 est.) revenue 3,077, expenditure 3,225. National debt (1948 est.): 22,300. Currency circulation (Sept. 1949; in brackets Sept. 1948) 12,240 (13,120). Gold reserve (Sept. 1949; in brackets Sept. 1948) 247 (264) million U.S. dollars. Bank deposits (Sept. 1949; in brackets Sept. 1948) 7,070 (7,820). Monetary unit: *rupee* with an exchange rate of 13·372 rupeees to the pound.

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INDIA, FRENCH: *see* FRENCH UNION; INDIA.

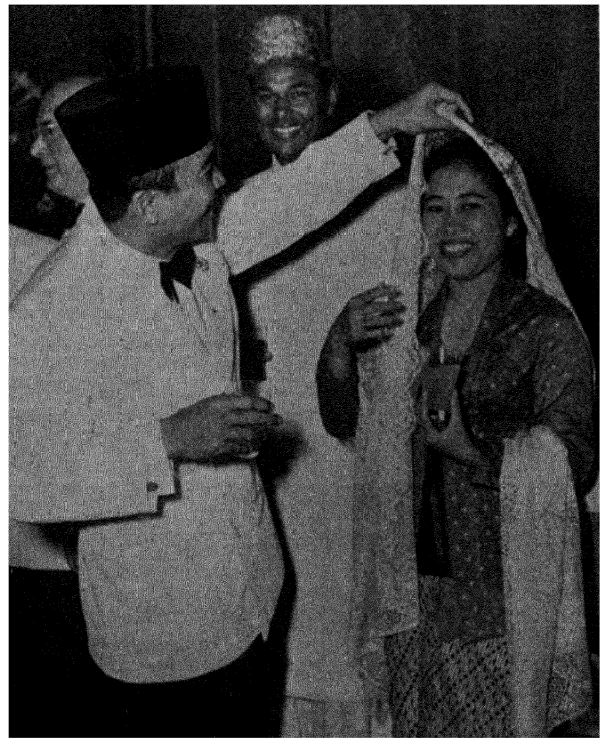
INDIA, PORTUGUESE: *see* PORTUGUESE COLONIAL EMPIRE.

INDO-CHINA: *see* FRENCH UNION.

INDONESIA, REPUBLIC OF THE UNITED STATES OF. The republic of the United States of Indonesia (*Republik Indonesia Serikat*) came into being on Dec. 27, 1949, when Queen Juliana of the Netherlands signed the charter of the transfer of sovereignty of the territories of the Netherlands East Indies (with the exception of New Guinea [area: 152,089 sq. mi.]) to the Indonesian people. The republic consists of seven participating states (*negara*) and nine independent political units (*daera*). Total area: *c.* 583,000 sq. mi. Total pop.: about 70 million. Capital: Jakarta or Batavia (pop., mid-1949 est., 1,200,000). President of the republic, Ahmed Sukarno (*q.v.*); prime minister and minister of foreign affairs, Mohammed Hatta; Netherlands high commissioner, Dr. H. M. Hirschfield.

The seven *negara* of the republic are: the Indonesian Republic, proclaimed Aug. 17, 1945, capital, Jokyakarta (Djokjakarta); East Indonesia (Negara Indonesia Timur) comprising Celebes, Bali, Lombak, Sumba, Sumbawa, Flores, Halmahera, Timor and the Moluccas, proclaimed Dec. 1946, capital, Makassar; West Java (Negara Pasundan) proclaimed Feb. 26, 1948, capital, Bandung (Bandoeng); East Java (Negara Djawa Timur) proclaimed Dec. 3, 1948, capital, Surabaya (Soerabaja); Madura (Negara Madura) proclaimed Feb. 20, 1948, capital, Pamekasan; East Sumatra (Negara Sumatera Timur) proclaimed Dec. 25, 1947, capital, Medan; South Sumatra (Negara Sumatera Selantan) proclaimed Aug. 30, 1948, capital, Palembang. The nine *daera* are: Central Java, Banka, Billiton, Riouw, West Borneo, Great Dayak, Bandjar, South East Borneo, East Borneo.

For the history of Indonesia in 1949 *see* NETHERLANDS OVERSEAS TERRITORIES.



President Ahmed Sukarno attending to his wife's head-dress at a reception in Jakarta, Dec. 1949.

INDUSTRIAL HEALTH. Industrial Legislation. The National Insurance Industrial Injuries act 1946 came into force on July 5, 1948. The comprehensive act, by including workmen's compensation, both for injury and prescribed industrial diseases, had an important bearing on industrial medicine and probably represented the most advanced progress in industrial legislation on the statute books of any country in the world. The administrative machine of the Ministry of National Insurance which now dealt with matters relating to injury and industrial disease in place of the legal procedure necessitated by the former Workmen's Compensation act worked smoothly and fairly.

Under the National Insurance act 1948 increased benefits were paid during sickness and it was anticipated that there would be some slight increase in sickness absenteeism as a result. This was confirmed in the registrar general's *Quarterly Report* (Jan.-March 1949) which showed substantial changes since July 1948. The report stated that in the September quarter of 1948 the sickness rate for all adults was 29% higher, and in the December quarter 26% higher, than for the corresponding quarters of 1947. There was evidence to show, however, that the rate declined during the latter months of 1949.

The 1948 Factories act introduced, for the first time, provision for the medical care of young persons in industry. This was an important step forward and meant that young persons between the ages of 15 and 18 could not only be examined on their entrance into industry as had been the case before the passing of the act, but would also have a further examination once a year. These examinations took place either in the factory or at the surgery of the Appointed Factory Doctor, a title new in English law; and it was anticipated that they would assist the correct placement of young persons in their proper jobs and in the detection and correction of minor disabilities which might become greater and more disabling in later life.

Industrial Health. *The Pneumoconioses.* In the *Annual Report* for 1948 of the chief inspector of factories reference was made to the incidence of the pneumoconioses—using the term generically—and it was shown that there were 885 deaths during the year from asbestosis and from silicosis and pneumoconioses. This large number of deaths illustrated only too dramatically the medical, social and industrial magnitude of this problem. A Medical Research council team working under the direction of C. M. Fletcher at Cardiff was doing much to solve some of the major conflicting difficulties which had surrounded the ætiology of this disease. The Medical Research council reports already published indicated the size of the task confronting this committee and the latest information would appear to be that the heavy incidence of the disease in the anthracite mines of south Wales was due not necessarily to the quality of the dust produced but rather to the quantity produced and inhaled by the miner at the coal face. No wide scale investigation into the social significance of this disease in so far as tuberculosis was concerned had yet been made; but it was held by some observers that the massive changes found in the lungs of anthracite miners in the latter stages of the disease were often tuberculous; and the effect of this upon the family of the miner and his co-workers would be of the greatest significance.

Cancer of the Lung. For many years the high incidence of cancer of the lung amongst the Schneeberg miners has been well known. Before World War II, J. Grosse of I. G. Farbenindustrie and his co-workers reported on an undue incidence of this disease amongst men engaged on the grinding and refining of mono-chromates in Germany. W. Machle and F. Gregorius of America reported in 1949 on comparable incidence amongst chromate workers in six factories in the United States, and their findings were strictly comparable with those of Grosse in so far as they showed that the men engaged in the grinding and refining of mono-chromates alone were effected, whereas those engaged solely on the manufacture and purification of bi-chromates were not affected.

The considerable and steady increase in the incidence of cancer of the lung had been noted throughout all industrial countries during the previous 20 years. The relationship of cancer at this site to asbestosis and silicosis was well demonstrated by Dr. E. R. A. Merewether in the *Annual Report* for 1947 of the Factory department of the Ministry of Labour and National Service. Of the 235 deaths from asbestosis which occurred between the years 1942 and 1946, inclusive, cancer of the lung or pleura was found to be present in 31 cases (13 2%), an incidence of statistical importance. Comparison was made in the report between the incidence of cancer in asbestosis and silicosis and an analysis of 6,884 deaths due to silicosis demonstrated cancer of the lung or pleura at post-mortem in only 1 32%. Although there was a disparity between the number of cases of asbestosis and silicosis, the low incidence in silicosis was a matter of medical importance.

Beryllium Poisoning. Increasing interest was taken in the complex study of beryllium poisoning both in Europe and America and, after the original paper by Van Ordstrand and other workers in 1943, an extensive literature had grown up on this subject. There were differences of opinion as to the pathological properties of the various compounds but it was well known that the beryllium-containing phosphors possessed harmful properties. These pathogenic materials, if inhaled into the lung, could produce either an acute inflammatory condition — a pneumonitis — from which recovery might take place, or the more serious state of a granulomatosis of the lung. In addition to the pulmonary changes which might follow inhalation, the beryllium-containing phosphors might produce, if introduced into the skin or possibly other surface tissues, a comparable state of granulomatosis. Three cases of sub-cutaneous granulomata due to injury with the glass of a fluorescent tube were reported by R. S. Greer and others, and special precautions would need to be taken in industry with the use of these powders and with the disposal of broken fluorescent tubes. More recently, J. N. Agate reported on a case of pneumonitis in a beryllium worker in Great Britain. (A. J. Ar.)

United States. The year 1949 was marked by tendencies toward co-operation between labour, management, government and the affected professional groups to accelerate existing programmes and avoid duplicated effort. The Public Health service of the Federal Security agency appointed an advisory board of representation from these major groups to give advice and guidance in the expanding services provided by its division of industrial hygiene. The first meeting produced resolutions advocating intensified research, testing of materials, field services, greater interest in medical care plans for industrial workers, in the occupational effects of atomic energy, occupational-disease reporting and air pollution. The division also completed an intensive investigation of the "smog" (fog and industrial smoke together) disaster at Donora, Pennsylvania. No single substance was incriminated but rather an accumulation of several atmospheric contaminants, the evidence pointing particularly to sulphur dioxide and particulate matter. The report called attention again to the unsatisfactory state of knowledge about the toxicological effects of mixed irritant gases.

Reduction in industrial accidents assumed new importance through a conference called by President Truman, attended by the leading technical experts who prepared detailed plans for progress. The Bureau of Labour Standards in the Department of Labour undertook the leadership in this

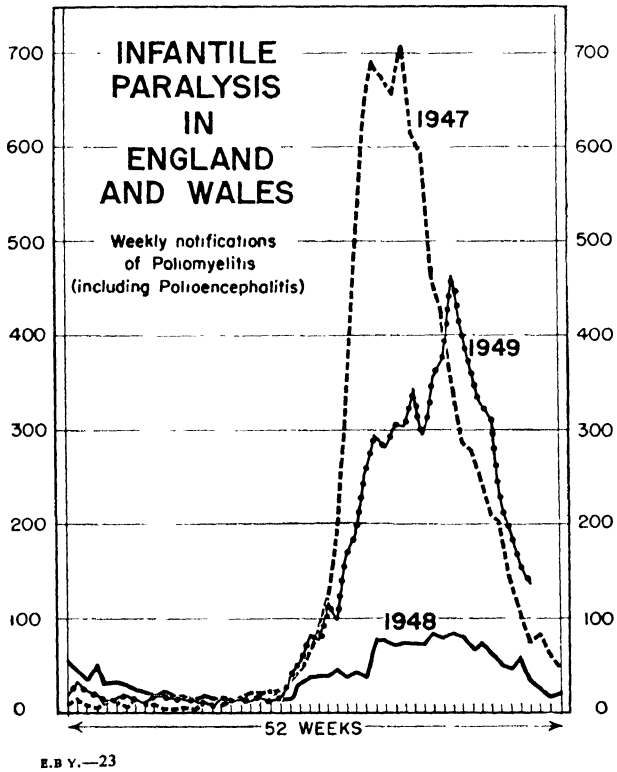
national endeavour. Meanwhile, the National Safety council and the American Medical association appointed a joint committee on accidents.

The demand for qualified industrial physicians stimulated greater interest in training. The American Medical association also approved the first hospital for resident training in occupational medicine. Surveys were completed of industrial medical education provided by medical schools and schools of public health for undergraduate and postgraduate instruction. Many physicians were expected to qualify for special certification by the newly created American Board of Preventive Medicine and Public Health. The *Journal of Industrial Hygiene and Toxicology*, after several decades of independent publication, was merged with *Occupational Medicine*, to be published by the American Medical association as *Archives of Industrial Hygiene and Occupational Medicine*.

The American Academy of Compensation Medicine assumed major significance as a means toward improved medical service to injured workers. Legislation in South Carolina, New Jersey, West Virginia, Nevada, Delaware, Rhode Island and Utah emphasized the trend toward general rather than schedule coverage for occupational diseases. New York amended its workmen's compensation act to provide disability benefits for non-occupational sickness, a significant departure from practices in several other states where this form of administrative responsibility had been assigned to unemployment bureaux. Indiana became the 41st state to adopt legislation authorizing a second injury fund. (*See* also ACCIDENTS.) (C. M. PN.)

INFANTILE PARALYSIS. The number of recorded cases of poliomyelitis in England and Wales in 1949 was estimated at 5,800—second only to 1947. Six hundred people died of the disease throughout the year, an average of 0 0014% of the total population The incidence of poliomyelitis was also unusually high during 1949 in Austria, France, Germany, India and New Zealand.

An outbreak of considerable medical interest occurred in the winter of 1948-49 among the Eskimo population in the Chesterfield area just west of Hudson's bay. There was an especially high mortality and paralytic rate (estimated at 5% and 14%, respectively, of the entire population in the Chesterfield area). The infecting agent was identified by laboratory tests as poliomyelitis virus, and it appeared to have been transmitted by clinically healthy human carriers.



A progressive increase in the number of cases of poliomyelitis recorded in the United States during 15 years reached a high peak in 1949. The average number of cases per year for the period 1935-39 was 6,784; for 1940-44, 10,885; and for 1945-49, 24,800. The epidemic of 1949, totalling almost 45,000 cases, covered most of the country, whereas previous epidemics were more limited geographically, and the affected areas tended to shift from year to year.

In the United States, a virus unknown previously was identified and proved responsible for a human disease so closely resembling the milder types of poliomyelitis that physicians were unable to distinguish between the two diseases. The virus is called the Coxsackie or C virus, named after the village in New York where it was first isolated by G. Dalldorf and G. Sickles in 1948. In addition to human beings, this virus is infectious for immature mice and hamsters, but not for adults of the same species. Several distinct types of virus from the point of immunity were found, none identical with any of the known types of poliomyelitis virus. It was isolated from flies, from sewage and from numerous human cases presenting symptoms of non-paralytic poliomyelitis. In 1949 there was no published report of its isolation from any human paralytic case on which concomitant tests for poliomyelitis virus were clearly negative. Poliomyelitis and Coxsackie viruses had been found simultaneously, however, in stools from the same patient.

A major difficulty in the preparation of poliomyelitis vaccines was the necessity of using infected monkey spinal cord as the source of virus. This limited the material available; entailed a danger of inducing an allergic inflammation of the recipient's own nervous tissues; and involved technical difficulties in the treatment of the material with agents designed to inactivate the virus without destroying its power to stimulate resistance. A possible solution of these problems was found in the successful growth of poliomyelitis virus in cultures of non-nervous human tissues. Two antigenically distinct types of poliomyelitis virus were so cultured, in tissues from the limbs and intestines of stillborn human infants. One type of virus was carried through a series of passages in cultures of skin from the prepuce of boys.

A systematic testing of poliomyelitis viruses was started in 1949 and scheduled for completion by 1952. While several hundred viruses were available, each isolated from a different human patient, the only property these were definitely known to possess in common was that each had produced typical symptoms and pathology of poliomyelitis in a susceptible animal. Their relationships to each other were still for the most part undetermined. Thirty viruses that were studied in 1949 all fell into three groups. An animal rendered immune to a virus in any one group was similarly immune to all others of the same group but not to the viruses of the other two groups.

Further research provided convincing proof that the paralytic consequences of human poliomyelitis could be minimized by a period of rest in bed during the early preparalytic stages of the disease. Additional evidence was also advanced to show that the chances of developing poliomyelitis are heightened by pregnancy and by removal of the tonsils and adenoids during a time when the virus is prevalent in the community. (*See* also EYE, DISEASES OF; EPIDEMICS; NERVOUS SYSTEM.) (H. M. WR.)

INFANT MORTALITY: *see* VITAL STATISTICS.

INNS: *see* HOTELS, RESTAURANTS AND INNS.

INÖNÜ, ISMET, Turkish army officer and statesman (b. Izmir, Turkey, Sept. 24, 1884), after Kemal Atatürk's death was unanimously elected president of the republic by the Grand National Assembly on Nov. 11, 1938, and re-elected in 1942 and 1946. (For his career see *Encyclopædia Britannica* and *Britannica Book of the Year 1949.*)

According to the statutes of the government Republican People's party adopted in 1939, Ismet Inönü was also " the permanent supreme leader " of the party. In the statutes revised by the congress of Nov. 1947, he was not mentioned; it was stated that the president general of the party is elected by the congress and specified that if the president general is elected president of the republic, he delegates his party functions to the vice-president general. General Inönü was re-elected president general of the R.P.P. but immediately transferred his powers to the vice-president general, Hilmi Uran. At Ankara on May 19, 1949, he declared that " all the damage and exhaustion of armed conflict are implied in a war of nerves (against Turkey), except the loss of life and destruction of buildings." He expressed the conviction that the struggle for power in Turkey would remain constitutional. " The Turkish nation," he said, " overcomes victoriously the dangers of a democratic regime; the country enters a period in which she will profit by its blessings."

INSANITY: *see* MENTAL DISEASES.

INSECTS: *see* ENTOMOLOGY.

INSURANCE. Results published during the year 1949 in Great Britain disclosed further expansion in premium income and considerably improved trading. An analysis of the accounts showed that in 1948 the total premium income from fire and accident insurance combined, for 24 representative British offices, rose by £27,122,000 to £244,224,000, and produced an underwriting surplus of £15,313,000, equivalent to 6·3% of the premiums. Marine premiums were higher by £5,329,500 at £33,382,000, and trading results were favourable. Unfortunately, taxation at home and abroad falling heavily on profits obstructed the very necessary strengthening of additional reserves.

Total new ordinary life sums assured in 1948 was only slightly below the record figure of £500 million attained in 1947. During 1949, much new business was brought in by the growing popularity of " family protection " assurance and staff pension schemes, but it was evident that the economic pressure on salaries and incomes would leave its mark upon the total new business production for the year.

The high level of new business attained by the industrial life offices, which was a feature of 1946 and 1947, was not repeated during 1948, the total new business of eight leading industrial companies, at £188,692,000, being £28,174,000 less than in 1947. It was anticipated that increased national insurance contributions would have at least a temporary restrictive effect upon the flow of new business, and this in a year of decline in the general level of savings proved 1949 one of consolidation rather than of spectacular progress.

Fire losses in the United Kingdom were again heavy in 1949, the experience in farming risks being exceptionally severe owing to an abnormally dry summer. The high rate of fire wastage was viewed with concern not only as a financial loss to underwriters but as a permanent and absolute loss of national capital, and the Fire Protection association was actively employed in its endeavour to abate this serious feature. The trend of insurance values was to higher levels, consequent upon the continued inflation of values, and coverage against consequential losses following industrial fires was in increased demand. Overseas claims attributable to politically disturbed conditions, such as incendiarism on



Clement Attlee and Herbert Morrison are seen wooing the insurance companies in this cartoon " Babes in the Wood—1949 " by Vicky in the " News Chronicle " (London).

the Malayan rubber estates, continued to weigh heavily on the business, and China, an important prewar field for British insurers, was practically closed for effective operations at mid-year. Elsewhere, an excessively nationalistic approach by certain countries to the insurance business again proved a disturbing feature.

Motor premium income was well maintained, but the high cost of repairs, especially in respect of cars of new design, combined with the heavy sums awarded as damages for personal injuries, rendered trading results variable and delicately poised. Burglary and baggage insurance showed good progress and a generally improved claims experience. Many sought the cover provided by employers' liability insurance. Accidents that formerly would have been met under the Workmen's Compensation act were made the subject of common law claims against the employer, and doubts were expressed as to the adequacy of the rates charged for the cover granted. Property-owners and general third-party liability, personal liability cover, plate glass insurance, fidelity guarantees, the insurance of boilers, and personal accident protection all remained in good demand.

Diminution of marine premium income arising out of the removal of the Combined Marine surcharge and the effects of the amendment to the Joint Hull Underwriting understanding were more than offset by the increased sterling value of a considerable portion of the premium income following the operation of the new exchange rates during the last quarter of the year. Major casualties included the loss of the Royal Mail liner " Magdalena " at a cost to underwriters approaching £3 million — a sum greater than any ever before known in the history of single losses. The very high value of new liners, together with increasing replacement costs, created special underwriting problems, but the totals were successfully absorbed. Theft, pilferage and non-delivery problems received serious attention by port and other authorities, but world-wide losses from these causes continued to be heavy.

Insurance interests built up by the British insurance industry in the U.S. gave the devaluation of sterling against the dollar special significance and presented underwriting and accountancy problems of some magnitude to British insurers. With about 65% of British overseas insurance business derived from U.S. operations, the new rate of exchange would enhance very considerably the sterling equivalent of the U.S. trading figures in world-wide published accounts. Conversely, there existed the necessity of providing the increase in sterling equivalent of the unexpired risk and outstanding loss reserves.

Plans for the nationalization of the industrial assurance companies and societies—including ordinary life assurance, fire, accident and general business transacted by these institutions—were replaced towards the end of the year by a proposal that industrial assurance should be conducted on the principle of " mutual ownership." Under this modified plan the proprietary companies in the field of industrial assurance would be owned by the policy holders themselves instead of by private shareholders The outline of the plan left many important questions unanswered, and insurance spokesmen expressed concern lest world-wide repercussions of acute controversy in this country might prove detrimental to the insurance industry as a whole. (P. Ss)

United States. At the end of 1949, nearly 85 million persons owned about $234,000 million of life insurance protection in the legal reserve life insurance companies of the United States and Canada. This was only slightly in excess of one year's income of the United States and Canadian peoples. The premiums paid in 1949 for life insurance and annuities exceeded $7,000 million.

Payments made to policy holders and beneficiaries by United States and Canadian companies in 1949 reached a new peak of over $3,400 million. If the increases in reserves held to assure payment of future benefits are included with payments to policy holders and beneficiaries, then over $7,000 million was paid or credited in 1949 to United States and Canadian families by the legal reserve companies of the two countries. In 1949, new life insurance issued exceeded $25,000 million for the third year in succession The net increase in life insurance outstanding was about $14,000 million.

During 1949, the assets of United States and Canadian legal reserve life insurance companies increased by about $4,000 million to reach $63,700 million, of which approximately 93% was held by United States companies. At the year end United States companies held over $23,000 million of corporate securities and nearly $13,000 million of mortgages, these two categories of investments together represented about 60% of the assets of U.S. legal reserve companies.

The holdings of United States government securities declined again in 1949 but such securities still totalled about $15,000 million at the end of the year (L. A. L.)

Fire Insurance. The premium income of private companies in the United States showed a smaller increase in 1949 than in the two previous years, with earned volume estimated at $2,750 million, but the total fire waste for the year dropped over $40 million below the 1948 figure. The companies, generally, made a profit in addition to their increased equities in the unearned premium reserve, whereas many had underwriting losses on fire insurance in each of the four years which preceded 1948

Marine Insurance. The year 1949 witnessed a substantial drop in the total marine premiums written in the United States, but underwriters expected that the loss experience would be better than in the previous year The world shortage of dollars; the small extent to which U.S. companies participated in the insurance of Economic Co-operation Administration shipments and the sale to foreign owners of a large number of government-owned vessels all contributed to a reduced volume of premium writings. (X.)

Hospital, Medical and Surgical. Inclusion by U S. labour unions of health and welfare demands in contract negotiations, notably in the steel and automotive industries, was probably the most significant development in this field during 1949. Acceptance by management of the principle of company-paid welfare benefits provided a new stimulus toward increased pre-paid health service through private channels. Industrial co-operative and other miscellaneous programmes covered, at the end of 1949, about 66 million persons for hospital benefits, 37 million for surgical benefits, and 14 million for medical benefits (*See* also NATIONAL INSURANCE; SOCIAL SECURITY, U.S.) (A. G. S.)

INTERIOR DECORATION. It was generally evident during 1949 that, four years after the end of World War II, the supply of house furnishings to the home market in Great Britain had improved considerably. Rationing with its attendant system of dockets and priorities was discontinued. Some of the controls exercised by the Board of Trade over the allocation of raw materials and the design of finished products were either relaxed or wholly lifted Shortages were still apparent but the position had changed slowly from an absolute dearth to a relative abundance, although the export market remained an over-riding first consideration. This was a satisfactory state of affairs as far as it was evidence of a recovery from war and consequent scarcities. Satisfaction was tempered, however, by realizing that the goods available were limited by a narrow range of choice The prospective purchaser of new house furnishings was able to buy from the utility ranges or from manufacturers' new and stock designs. If his means were modest he had no alternative but the former because the price was controlled. There was little promise of high adventure in buying utility ware but there was fair certainty of finding sensible and unpretentious articles. In furniture a new phase was discernible which was spoken of as freedom of design. This meant that manufacturers were allowed to produce their own designs provided that such designs conformed to the Board of Trade specifications which exempted them from purchase tax. Unhappily this freedom, with some outstanding and praiseworthy exceptions, resulted in a noticeable deterioration of design standards. First, in an attempt to vary uniformity, superficial differences were added which disfigured the simplicity and spoiled the restraint of the original controlled designs. Then a tendency to look back towards 1939 caused replicas of cheap and undistinguished prewar furniture to make an unwelcome re-appearance in showrooms. Thus, although freedom of design meant a wider variety, it was a diversity which for the most part was degraded by indifferent standards of craftsmanship and invention. Carpets and floor coverings, curtains and upholstery fabrics in the utility ranges offered no more than an adequate choice of pattern, colour and texture with, here and there, a design of real distinction. In crockery there was a drab monotony mainly due to a ban on the sale of decorated china to the home market. The only exceptions to the rule were export " seconds," a term used to describe items of crockery which for one reason or another were inferior to the quality required for export. The restricted variety of furnishings available in utility ranges represented that which was produced in the largest quantity and which was bought by the greatest number of householders. But it was only in those goods which were made regardless of price control and those made for export that the full scope of British furnishing designs was evident.

Throughout 1949 the importance of good design in all forms of house furnishing was emphasized and reiterated time and again in public speeches, in the press and on the wireless. The Council of Industrial Design continually urged the value of good design in promoting business. In the furnishing trades there was a freer acceptance of the idea that in acutely competitive world markets good design was no less irresistible than good salesmanship, but whereas there was general acquiescence about its desirability there were widely different approaches to its production.

In the carpet and pottery trades, for example, markets had been built up on the production of old and intricate designs executed with unsurpassed skill, designs which had become familiar because of an easily recognizable pattern or shape

and renowned for the technical excellence of their manufacture. Since very few designs had been produced the problem in these trades was the re-animation of old designs so that without loss of identity they were a more immediate expression of modern living. By contrast the textile industries displayed every sign of using their traditionally high reputation as a spur to further development. In their products they showed versatility in the use of new processes and materials, originality in the output of new patterns and textures and a good standard of design informed by a lively understanding of present-day requirements. A great deal of the credit for this alert attitude was due to the work and influence of the Cotton Board Colour, Design and Style centre and to the Rayon federation. From the furniture trade, disregarding that section which contented itself with the reproduction of antiques, there came a number of interesting designs which also showed some knowledge of contemporary needs in the fact of their smaller scale and lighter construction and in their experimental use of new shapes and materials.

In spite of an awakening interest in design there were no discernible trends in 1949 to suggest the development of a postwar style of household furnishing. It seemed that the ultimate emergence of such a style depended on the extending influence of the Council of Industrial Design whose valuable work of raising the standards and correlating the various aspects of interior design continued intensively throughout the year. (F. W. W.-S.)

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT. Activities of the International bank expanded greatly during 1949 along two main lines: in the volume of actual loans which the bank granted; and in the substantially increased amount of technical assistance and other services which the bank rendered to its member countries. The bank, from Jan. 1 to Dec. 1, 1949, made a total of 11 loans aggregating $206,600,000. The majority of these loans were for the purpose of assisting in the economic development of member nations.

Latin America. The bank made two loans to agencies of the Mexican government for electric power development. The first loan, of $24,100,000, was made to finance purchases by Mexico's Federal Electricity commission of equipment needed for constructing generating stations, transmission lines and distribution systems in various parts of Mexico. A second loan, of $10 million, was made to assist in financing a programme for expansion of electric generating and distribution facilities. Both loans were guaranteed by the Mexican government.

The bank made a loan of $75 million which was guaranteed by the government of Brazil, to the Brazilian Traction, Light and Power Company, Ltd., a Canadian corporation, to finance most of the foreign exchange costs of a four-to-five year programme for expansion of hydro-electric power and telephone facilities of the company's Brazilian subsidiaries. A loan of $5 million was granted to the Caja de Credito Agrario, Industrial y Minero to finance the purchase of modern agricultural machinery. This loan was guaranteed by the Colombia government.

Europe. The bank made a loan of $16 million to Belgium to finance imports of equipment for the construction of two privately-owned steel mills and a power plant in the industrial district of Liége. A loan of $12,500,000, which was guaranteed by the government of Finland, was made to the Bank of Finland for reconstruction and modernization of woodworking industries, electric power development and expansion of production of limestone powder used in agriculture. Another loan of £15 million was granted to the Finance Corporation for National Reconstruction (Herstelbank) of the Netherlands for 24 projects involving reconstruction or modernization of Dutch industry. This loan was guaranteed by the Netherlands government.

Loans of $2,300,000 and $2,700,000, respectively, were made to Finland and Yugoslavia for the purchase of timber-producing equipment in order to develop the production and export of timber in those countries.

Asia. The bank extended its first credits to a member country in Asia when it granted two loans to India. The first loan, of $34 million, was made to assist in financing a broad programme of railway improvement. A second loan, of $10 million, was for the purchase of heavy agricultural machinery needed for the reclamation of weed-infested lands and for clearance of jungle land.

General. These lending operations brought the total loans made by the bank from the time it began operations to Dec. 1, 1949, to $731,600,000.

The increased tempo of the bank's activity in 1949 was not confined to the granting of loans. As the year ended, the bank was actively investigating additional projects in about 20 member countries.

At the request of its members, the bank sent about 30 missions to member countries. While the functions of these missions necessarily varied in each particular case, they included mainly the following: examining specific projects proposed for bank financing; assisting a member country in drawing up an over-all development programme suited to its needs; and making a comprehensive survey of the general economic situation in a member country and assisting in designing measures for improving its financial stability.

The bank engaged in no direct borrowing operations during 1949. It further developed, however, another type of marketing technique, begun in 1948, by selling from its loan portfolio securities issued to it by borrowers under its loans. During the year the bank sold. with its guarantee, to institutional investors in the United States the $16 million of bonds received in connection with its loan to Belgium, and the last $3,900,000 of mortgage notes received in connection with its loans to four Dutch shipping companies.

The bank's operations for the fiscal year ended June 30, 1949, resulted in an excess of income over expenses of approximately $10,600,000. The total excess of income over expenses since the bank began operations to Sept. 30, 1949, amounted to about $16,800,000.

Membership in the bank was increased to 48 countries with the admission of Thailand. In addition, applications of Liberia and Haiti were approved by the board of governors, subject to completion of necessary formalities.

At its annual meeting held in Washington, D.C., in September, the board of governors approved the bank's fourth annual report. This report stated than an outstanding feature of the year was the increased attention given to the problem of economic development. It described the bank's objectives in this field as essentially the same as those announced by President Truman in the Point Four programme.

On July 1, 1949, Eugene R. Black assumed office as president of the bank, succeeding John J. McCloy (*q.v.*). (*See* also INTERNATIONAL MONETARY FUND.) (E. R. BK.)

INTERNATIONAL COURT OF JUSTICE. On April 9, 1949, the International Court of Justice gave its final decision in the Corfu Channel case between the United Kingdom and Albania. It held that Albania was responsible under international law for the explosions that occurred in Albanian waters on Oct. 22, 1946, resulting in the loss of one British destroyer and damage to another with heavy loss of life.

On two other questions raised by the agreement between the parties under which the court was proceeding; *i.e.*, as to whether the acts of the Royal Navy in those waters (1) on

Oct. 22 and (2) in sweeping the waters on Nov. 12, 1946 (to determine the nature of the explosions), constituted a violation of Albanian sovereignty, as contended by Albania, the court decided the first question in the negative and the second one in the affirmative. Money damages were not allowed, the court concluding that its declaration constituted in itself sufficient satisfaction to Albania. The court issued an order fixing time-limits for the submission of written observations regarding damages claimed by the United Kingdom.

On July 1, 1949, the Albanian agent filed with the court a statement contending that under the special agreement signed by the two agents on March 25, 1948, the court had solely to consider whether Albania was obliged to pay compensation for the damage done on Oct. 22, 1946, and was not thereby authorized to fix the amount of the compensation or to ask Albania for information on the subject. Albania refused to appear at the hearings held on Nov. 17.

On Nov. 19 the court designated Rear-Adm. J. B. Berck and G. de Rooy, both of the Royal Netherlands navy, as a committee of experts to examine the figures and estimates filed by the United Kingdom covering loss of the destroyer "Saumarez" and damage to the "Volage." Their report was filed on Dec. 1 and was promptly communicated to the parties, who were given until Dec. 10 for submission of written observations.

On Dec. 6 the United Kingdom government stated that, inasmuch as the experts had concluded that the claim submitted by it might be taken as a fair and accurate estimate of the damage sustained, it did not wish to make further observations.

On Dec. 10, shortly after expiration of the time-limit, the Albanian government filed, with the court, a letter stating that it desired to make observations in the form of direct questions to be put to the experts in a session of the court, or, in the alternative, to be given until Dec. 23 for the filing of written observations. The court declined to accede to this request and on Dec. 15, by a vote of 14 to 2, decreed that Albania should pay to the U.K. the sum of £843,947.

Advisory Opinion. The general assembly on Dec. 3, 1948, asked the court for an advisory opinion as to:

(1) Whether in the event of an agent of the United Nations suffering injury in the performance of his duties in circumstances involving the responsibility of a state, the United Nations, as an organization, had capacity to bring an international claim against the responsible government for reparation in respect of damage caused (a) to the organization, (b) to the victim or to persons entitled through him?

(2) How, in the event of an affirmative answer to point 1 (b) just stated, action by the organization was to be reconciled with such rights as might be possessed by the state of which the victim was a national?

The court gave its opinion on April 11, 1949. It was unanimous in answering question 1 (a) in the affirmative. Eleven judges answered question 1 (b) in the affirmative and four were of opinion that no such capacity existed. They thought that under international law such claims were to be dealt with between the state responsible for the injury and the state of which the victim was a national.

On the second part of the question; *i.e.*, as to how action by the United Nations under point 1 (b) was to be reconciled with such right as might be possessed by the state of which the victim was a national, the same 11 judges were of the opinion that since the organization, in bringing a claim for damages caused to its agent, could do so only by basing the claim upon breach of obligations due to itself, respect for this rule should usually prevent a conflict between its action and such rights as the agent's national state might possess; and that in this fashion "reconciliation" between the claims would be effected. This, they said, "must depend upon considerations applicable to each particular case, and upon agreements to be made between the organization and individual states."

Pending Cases. At the close of the year 1949 the following cases were pending: Colombia *v.* Peru, a question of asylum and safe-conduct involving a Peruvian national who was given refuge in the Colombian embassy in Peru; Great Britain *v.* Norway, involving the extent of Norwegian territorial waters inside which fishery interests may be reserved exclusively for Norwegian nationals; France *v.* Egypt, relating to the application of certain Egyptian decrees to French nationals and their property. There were requests by the U.N. general assembly for advisory opinions on: the interpretation of provisions of peace treaties between certain allied and associated powers and Bulgaria, Hungary and Rumania; whether the general assembly might admit states to membership in the United Nations without a favourable report from the Security council; and the status of territory of South West Africa over which the Union of South Africa was given a mandate by the League of Nations. (*See* INTERNATIONAL LAW.) (G. H. H.)

INTERNATIONAL LABOUR ORGANIZATION. The 32nd session of the International Labour Organization conference met at Geneva, Switzerland, June 8-July 2, 1949, with 550 accredited delegates and advisers from 50 member states. Five conventions and four recommendations were adopted. Three conventions—the right to organize and collective bargaining; protection of wages; and labour clauses (public contracts)—completed the second discussion of subjects begun at previous sessions. Two conventions—fee-charging employment agencies and migration for employment (revised)—were revisions intended to facilitate wider ratification by giving alternative choices in their application.

In addition to these five conventions, the conference adopted the partial revision of three maritime conventions and the four recommendations—labour clauses in public contracts; the protection of wages; migration for employment (revised); and vocational guidance. This made a total of 98 conventions and 87 recommendations adopted in 30 years with more than 50 conventions in force.

The report of the director-general (D. A. Morse) stressed the intensification and expansion of I.L.O. work as a complement to its deliberative and legislative functions.

The report was debated for nearly 12 days—more than half the working hours of the conference—by 95 speakers, and its unique feature was an assessment of world affairs from the three-fold point of view of governments, employers and workers the world over. The new emphasis on operational activities and the wider participation of members in the ratification of conventions, regional activities, etc., were unanimously approved.

The application of conventions and ratifications was debated as a matter of major concern at the conference. The total number of ratifications registered was 1,011 as reported by the conference committee in June, later increased to 1,039 (October); but the gain in both 1948 and 1949 was only about 35. The committee of experts said that reports of what had been done after the ratification of conventions and with the recommendations were too few and too late. Both committees and the director-general said that, making due allowance for postwar conditions, this situation was critical and they united in an appeal to the member states for loyalty and a greater sense of obligation.

The conference adopted a budget of $5,987,526 for 1950. This was about $800,000 more than for 1949. The increase was due chiefly to operational activities in the field of manpower, technical training and migration.

The governing body held three sessions, the 108th and 109th at Geneva in March and June, and the 110th in Mysore, India, in Dec. 1949, in connection with the postponed Asian Regional conference in Ceylon. The body appointed its own

tripartite manpower committee for Europe, Asia and Latin America, and arranged for both separate and joint meetings. It also authorized the office to convene employment service experts in various regions and established an I.L.O. field office on technical training in Asia. In response to the request of the U.N. Economic commission it authorized the office to assist countries to develop systems for the training of supervisors and instructors within industry and to convene a tripartite meeting of experts from European countries. Assistant director-general G. A. Johnson was appointed treasurer, and Wilfred Jenks, present legal adviser, and Luis Alvarado of Peru assistant directors general.

The fourth conference of American states members of the I.L.O. met in Montevideo, Uruguay, from April 25-May 7. It dealt with the life and work of indigenous workers, conditions of employment of agricultural workers, industrialization and the efficiency of the labour force in Latin American countries, particularly with respect to training and health conditions. (S. McC. L.)

BIBLIOGRAPHY. *Industry and Labour* appeared in an enlarged form, twice a month, separate from the *International Labour Review*, with which it was combined in 1940 The *Legislative Series* appeared in Spanish, English and French. Conference documents numbered about 25 and included timely volumes such as *Report of the Director General, Equal Remuneration for Men and Women for Work of Equal Value, Industrial Relations*, etc General reports of the industrial committees were published for inland transport, protection of young workers on inland waterways, technical methods of selection of workers, building, civil engineering and public works, iron and steel, metal trades and coal mines *Studies and Reports, New Series* comprised *Labour Problems in Greece, Labour Courts in Latin America, International Standard Classification of Occupations*, and *Wages and Payroll Statistics*. Miscellaneous publications were *Year Book of Labour Statistics, 1947-48, Law and Practice Relating to Safety in Factories, Third Report to the United Nations*

INTERNATIONAL LAW. In 1949, most international jurists emphasized the co-operative rather than the federalistic character of the world community, stressing the phrase "sovereign equality" of states in article 2 of the United Nations charter. Some, however, interpreted the growing recognition of the status of the individual as a manifestation of a movement toward world federalism. Broad interpretations of the veto and the reservation of domestic jurisdiction in the U.N. charter convinced some that state sovereignty had been little curtailed by new institutions and principles. Others, noting the development of regional security arrangements, foresaw a period in which such arrangements would dominate the world community.

The Status of International Organizations. The International Court of Justice gave an advisory opinion in April 1949, at the request of the general assembly, holding that the United Nations had an objective personality entitling it to make claims, as would a state, against any state, whether a member or not, responsible for injury to its agents The opinion was requested in connection with the assassination of Count Bernadotte in Israel and, following the opinion of the court, the general assembly instructed the secretary general to present suitable demands for reparation.

During the year there was much discussion of the authority under international law of the United Nations to interfere in civil wars and to recognize new states. The issue was raised by the action of the U N. in the Indonesian controversy and in this instance the U N. successfully asserted its authority.

The limitations which the domestic jurisdiction reservation in the charter (article 2, para. 17) imposed upon the United Nations in dealing with controversies were also involved in the South African refusal to observe repeated assembly resolutions requesting it to put the formerly mandated territory of South West Africa under trusteeship and to respect the human and treaty rights of Indians living in South African territory. Juristic opinions differed on the issue Some held that a state could withhold a matter from U.N. action by declaring it to be "essentially domestic" while others held that U.N. agencies themselves were free to assume that no matter was in the domestic category if it concerned a subject put within the competence of the United Nations by the charter or regulated by international law or treaty. In practice the organs of the United Nations followed the latter interpretation but certain members, resting on the former interpretation, ignored its recommendations.

By admitting new states to its membership and by accepting the credentials of individuals commissioned by revolutionary governments to represent members, the U.N. undoubtedly qualified the "sovereign right" of other members to recognize or not to recognize such states or governments. Juristic analyses indicated that many types of assembly resolutions necessarily had important legal effects even though in form they were merely recommendations. This was formally true of the general assembly's resolution in the autumn of 1948 disposing of the former Italian colonies under authority given it by the peace treaty with Italy.

The capacity of the United Nations and the specialized agencies to request advisory opinions of the International Court of Justice gave these organizations a practical status before the court. Jurists suggested that it might be advisable to open the court to contentious litigation by these international organizations although that step has not yet been taken.

The trend of opinion, practice and authoritative decisions was to augment the status and power of international organizations, thus qualifying the status of states Appreciation that this legal position had not always been acquiesced in by members of the United Nations led to a resolution in the general assembly in Dec 1949 by a vote of 53 to 5 affirming the obligations of the charter and calling upon the members to co-operate in full with U.N organs.

Status of Regional Arrangements. Opinions varied concerning the status of regional arrangements for collective self-defence, although the permissibility of such arrangements under article 51 of the U.N. charter was generally acknowledged The western powers had generally favoured the inter-American arrangement established by the Rio de Janeiro convention of 1947 and the Western Union arrangement established by the Brussels convention of 1948 On the other hand, these powers had been less enthusiastic about the Arab League established in 1944 and had generally opposed the one-sided arrangements concluded by the U.S.S.R with its satellites in eastern Europe The North Atlantic pact concluded in April 1949 was criticized on the political ground that it tended to widen the gap between the west and the U.S.S.R and tended to reduce the security of Asiatic states, and on the juristic grounds that it provided no impartial procedure or clear criteria for determining the aggressor and no workable procedure to indicate whether a decision on this point, made by the parties, was just.

Rights and Duties of States. Under instructions from the general assembly, the U.N. International Law commission approved, by a vote of 11 to 2, (the U.S. and U.S.S.R. representatives joining in the dissent) a Draft Declaration on the Rights and Duties of States originally proposed by Panama. The general assembly voted in November to transmit this document to the members for comment. The instrument was subject to much unofficial criticism by jurists from the point of view both of form and of content, though it commanded considerable support. It constituted an effort to state the basic principles of international law in brief paragraphs similar to instruments approved by the American states in the past

Many traditional problems of international law were dealt with judicially during the year. The Oksana Kosenkina case,

concerning the Soviet employee who jumped out of a second-storey window to escape Soviet restraint, raised questions of consular immunity. The immunity of national representatives to the United Nations in the U.S. was raised in a case involving speeding by the Chilean representative. U.S. courts held that Valentin Gubichev, an employee of the United Nations and allegedly still attached to the Soviet embassy was not immune from prosecution on charges of espionage in the United States. British courts refused to extradite Gerhard Eisler, a Communist found guilty of contempt of congress for refusing to testify before the Un-American Activities committee partly on the ground that the offence was political.

The trend toward judicial acceptance of executive decisions on matters of immunity, status, privileges, etc., continued in U.S. and British courts but was less evident in continental European courts

The International Court of Justice handed down an opinion on the merits of the Corfu Channel case in April 1949, finding Albania liable for the destruction of British ships by mines in its territorial waters. The court stated the rule of customary international law "that states in time of peace have a right to send their warships through straits used for international navigation between two parts of the high seas without the previous authorization of a coastal state, provided that the passage is innocent Unless otherwise prescribed in an international convention, there is no right for a coastal state to prohibit such passage through straits in time of peace."

The International Law commission began investigating three topics of international law deemed to demand codification: the law of the high seas, the law of treaties, and the law of arbitral procedure In connection with the first topic, a whaling convention came into force during the year and several states followed the United States in claiming domain beyond the three-mile limit By legislation of 1945 the United States had claimed domain in the bottom of the sea as far as the continental shelf. Saudi Arabia claimed six miles, both the bottom of the sea and the sea itself, as had Turkey, Syria and the Lebanon. Most of the Persian gulf states claimed jurisdiction over the bottom of the gulf beyond the three-mile limit, and Jamaica and the Bahamas claimed the continental shelf surrounding these islands

U S. courts decided that for certain purposes the U S bases in Bermuda were "possessions" of the United States, but Okinawa, though occupied by U S. forces, was not. Great Britain continued its controversy with Chile and Argentina concerning the Falkland Islands dependencies. These countries had refused to arbitrate the title, but had occupied certain islands which they claimed. During the year the western powers recognized the Korean republic (occupying the southern half of Korea) and gave a certain recognition to the German federal republic including the three western zones of Germany They retained ultimate power in the Occupation statute.

The general assembly in dealing with the former Italian colonies as authorized by the Italian peace treaty decided that Libya should be independent by Jan. 1, 1952, and that Somaliland should be under Italian trusteeship for ten years. It also authorized a commission to go to Eritrea to determine the wishes of the population before June 1950.

The general assembly made several decisions in regard to trusteeships and dependent territories. It asked the International Court of Justice to advise on the status of South West Africa, formerly under mandate. It also limited the right of administering authorities to incorporate trusteeship areas in administrative unions with neighbouring territories and decided that the U.N. flag should fly with the flag of the administering authority in trusteeship areas. The assembly also asserted its competence to consider the political development of dependent territories not under trusteeship. These positions were criticized by some of the administering authorities. The general assembly recommended that Jerusalem be internationalized under the United Nations, but this was opposed by both Israel and Jordan who were actually occupying the city (*See* also TRUST TERRITORIES.)

Human Rights. The Human Rights commission of the United Nations produced a Draft Covenant of Human Rights. This instrument would create legal obligations for ratifying states to observe certain of the rights asserted in the universal declaration and would be implemented by committees competent to investigate and give publicity to violations of the covenant. The covenant was to be considered further by the Human Rights commission at its meeting in 1950. The general assembly failed to take action on the proposed Freedom of Information convention. It did, however, consider the alleged violation of human rights in Hungary, Bulgaria and Rumania and asked the International Court of Justice for an advisory opinion on the obligation of these states to co-operate in the procedure for the protection of human rights set up in the peace treaties. These states had alleged that the matter was within their domestic jurisdiction.

The International Law commission had on its agenda the drawing up of a code on war crimes and other offences against international security along the lines of the Nuremberg charter, and the establishment of an international criminal court The secretariat had prepared a "Historical Survey of the Question of International Criminal Jurisdiction" and committees were set up to study the matter, but no final action was taken. (*See* also WAR CRIMES)

Status of War. The Kellogg-Briand pact, the United Nations charter, the Nuremberg charter and the Nuremberg and other war crimes judgments had made it clear that war, as a condition during which two or more states were equally free to utilize armed force to solve their controversies, had been outlawed Under these instruments, as interpreted by governments and international tribunals, governments engaged in hostilities must be either lawful defenders, unlawful aggressors, or governments lawfully exercising domestic jurisdiction or participating in international sanctions. They could not be belligerents in the traditional sense. Nevertheless, hostilities might occur and, whatever the name, would require regulation. There was considerable discussion of the "law of war" during 1949. Proposals were made to distinguish "hostile occupation" carried on after unconditional surrender of an enemy, "pacific occupation" carried on in an allied country during hostilities and "peaceful occupation" carried on in time of peace from "belligerent occupation" carried on in enemy country during hostilities. The prevalence of these varied types of occupation rendered the subject important. Regulation of aerial bombardment, submarine warfare and the taking of hostages was urged. Improvement in the 1929 convention for the treatment of the prisoners of war was also considered necessary (*See* also INTERNATIONAL COURT OF JUSTICE) (Q.W.)

INTERNATIONAL MONETARY FUND. The principal spheres of activity of the International Monetary fund during 1949 related to the establishment and revision of par values and exchange rates, exchange transactions, exchange restrictions, multiple currency practices, gold policy and admission of new members. As in the past, the fund provided the machinery for continuous international consultation and co-operation on these varied problems.

With the admission of Thailand the membership of the fund increased to 48 members. Thailand's quota in the fund was established at $12 5 million, bringing the total aggregate quotas up to $8,046·5 million, compared with $8,034 million on Dec. 31, 1948, and $7,921 5 million as at Dec. 31, 1947.

The use of the fund's resources continued to be governed by the same general policies as in previous years. Exchange transactions with members were submitted to the tests of the various criteria set forth in the fund's Articles of Agreement. As a general rule, countries receiving assistance from the Economic Co-operation administration could request the purchase of U.S. dollars from the fund only in exceptional or unforeseen cases. The following table summarizes the fund's exchange transactions during the year 1949.

TABLE I.—EXCHANGE TRANSACTIONS OF THE INTERNATIONAL MONETARY FUND, 1949

Country	Sales of U.S. dollars	Country	Sales of U S. dollars
Brazil	37,500,000	Yugoslavia	9,000,000
India	31,680,000	Egypt	3,000,000
Australia	20,000,000	Ethiopia	300,000

In addition, the fund sold 6,136,000 U.S. dollars against gold. Important developments for the fund were the beginning of transactions in which member countries of the fund repurchased some of their own currencies with gold and U.S. dollars. The first country to engage in such a transaction was Costa Rica, which in May repurchased the equivalent of $874,000 in its own currency from the fund. In subsequent months similar transactions were carried through by Belgium and Nicaragua. On Nov. 30, 1949, the fund held the equivalent of $1,450,563,000 in gold, plus $5,353,629,000 in currencies of member countries, of which $1,289,336,000 represented U.S. dollars.

The year 1949 saw many changes in the par values of member countries. In addition to the establishment of an initial par value for the Yugoslav dinar in May and a new par value for the Mexican peso in June, in September there took place a series of changes in the par values of a number of member countries. These began on Sept. 18 when the United Kingdom proposed, and the fund concurred, in the change of the par value of sterling. Within a few days 13 member countries, not including their non-metropolitan areas, changed their par values.

TABLE II.—NEW PAR VALUES OF MEMBER COUNTRIES, 1949

Country	Currency	Date established	U S cents per currency unit
Yugoslavia	Dinar	May 24	2 0000
Mexico	Peso	June 17	11·5607
United Kingdom	Pound	Sept. 18	280·000
Australia	Pound	Sept. 18	224 000
Union of South Africa	Pound	Sept. 18	280 000
Norway	Krone	Sept. 18	14 000
Denmark	Krone	Sept 18	14 4778
Egypt	Pound	Sept 18	287·156
Canada	Dollar	Sept 19	90 9091
Iraq	Dinar	Sept. 20	280·000
Netherlands	Guilder	Sept 20	26·3158
Iceland	Króna	Sept 21	10 7054
India	Rupee	Sept. 22	21 0000
Belgium	Franc	Sept 22	2·0000
Luxembourg	Franc	Sept 23	2·0000

The member countries which had not yet established par values with the fund at the end of 1949, because it was felt that their domestic conditions did not warrant their adoption, were Austria, China, Finland, Greece, Italy, Poland and Uruguay; neither did Thailand, which as already stated had joined the fund during the year, have an established par value. France continued as in 1948 not to have a par value agreed with the fund. In addition to the establishment of new par values and changes in established par values, a number of member countries in consultation with the fund took important steps to change their exchange rates or their existing systems. These changes did not, however, involve changes in par values. Among the countries which made such changes were Austria, Finland, France, Greece, Peru, Paraguay and Uruguay. These changes usually involved considerable simplification of the exchange rate structure. In France, the new system established uniform exchange rates for all transactions in every currency; however, this rate was not fixed but instead, would vary in accordance with the rate quoted from time to time on the Paris free market.

During 1949, questions relating to external sales of gold at premium prices and gold subsidies were a matter of discussion with a number of member countries; *e.g.*, Belgium, Canada, Southern Rhodesia and the Union of South Africa. The fund reviewed and decided to maintain its previous policy with regard to external transactions in gold at premium prices.

The fourth annual meeting of the board of governors of the International Monetary fund was held in Washington, D.C., in September. At this meeting the governors considered a proposal of the Union of South Africa to permit, under specified conditions, the sale, by the government of any member, of newly-mined gold in any market at such premium prices as might be ruling in that market. After discussion it was agreed that this resolution be referred to the executive directors of the fund for a study of the relevant considerations and for a report to the board of governors. At this conference it was decided to admit Haiti to membership of the fund, with a quota of $2 million and to extend the period in which Liberia might accept membership of the fund.

The activities of the fund involved continuous consultation and advising with member governments, and the maintenance of close contacts with the other international agencies. The fund worked together with a number of these agencies in connection with President Truman's Point Four proposal. (*See* also INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT.) (A. N. O.)

INTERNATIONAL RED CROSS: *see* RED CROSS.

INTERNATIONAL REFUGEE ORGANIZATION: *see* REFUGEES.

INTERNATIONAL TRADE. Preliminary figures for the first nine months of 1949 indicated an increase in the value and the volume of international trade, at an annual rate, above that of 1948, and a decline in world export prices. However, the unbalanced state of the trade of the rest of the world with the United States and the shortage of dollar exchange continued to be a cause for common concern. Although increased effort was made by the rest of the world to reduce the high degree of dependence on purchases from the United States, declining exports to the United States and increased imports from that source resulted in trade deficits in the first and second quarters of the year which were larger than the deficit during any quarter in 1948; but considerable improvement took place in the unbalanced situation in the third and fourth quarters.

Import and export exchange controls were universally maintained in 1949 and many countries intensified them, limiting dollar imports to the most essential goods and trying to divert their purchases as far as possible from hard currency to soft currency areas. Various policies were adopted to encourage exports to the United States but the decline in economic activity in that country in the middle of the year was reflected in lower import figures. Declining currency reserves were halted by a wave of currency devaluations beginning with the devaluation of the pound sterling on Sept. 18, 1949, which carried with it devaluation of the currencies of the sterling area with the exception of Pakistan. This change was followed by a general readjustment of most European and several Latin American currencies.

The stringent world dollar exchange situation was partially alleviated by continued loans and grants. A large part of international trade continued to be financed in this manner.

TABLE I.—VALUE OF TRADE OF THE UNITED KINGDOM WITH PRINCIPAL COUNTRIES*
(In £ million)

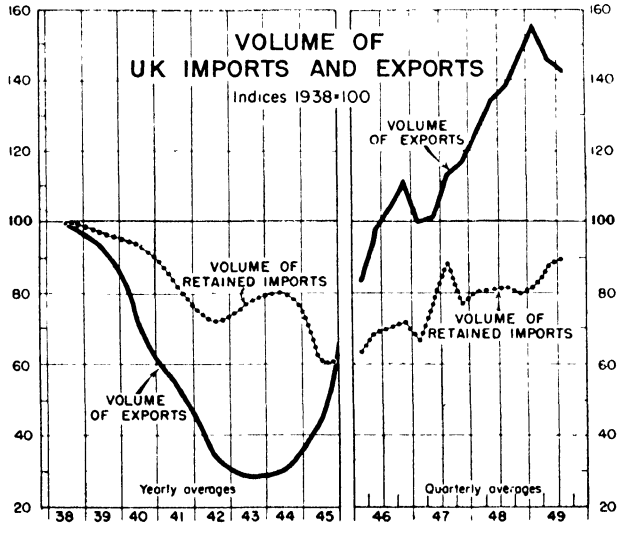
Country	Imports†		Exports‡	
	1948	1949	1948	1949
Argentina	88 1	46 7	33 5	35 7
Australia	115 7	157 4	107 6	133 8
Belgium	28·3	30 2	28·5	25 4
British West Africa	59·7	73·2	32 9	46 2
Canada	166 4	156 6	50 3	57 9
Ceylon	21 2	20·1	9 4	10 8
Denmark	33 2	57·5	19·3	34 4
Egypt	33 4	26 4	26·2	27 2
France	31 9	54·5	26 8	24 3
India, Pakistan, etc.	78 3	80 1	77 6	123 6
Ireland	28 5	39·3	56 4	55 6
Netherlands	31·3	48·5	31 9	38·7
Netherlands West Indies	48·2	30·3	1·9	1·8
New Zealand	87·7	96 1	37·4	44 8
Norway	12·9	16 7	21 4	30 7
Sweden	37·0	45 8	41 0	33 4
Union of South Africa	24·1	24 6	87 7	106 4
United States	142·9	163 0	49 4	37 0
Other countries	481 2	514 3	411 6	447 3
Total	1,550 0	1,681·3	1,150 8	1,315 0

* All figures for period Jan.-Sept.
† General imports
‡ United Kingdom produce

Many countries sought to overcome the principal obstacle to trade—currency convertibility—by resorting increasingly to bilateral agreements and barter arrangements.

Although increased restrictions on imports were characteristic of the period, the effort to lower tariffs and other trade barriers was continued. At the Annecy conference ten countries seeking accession to the General Agreement on Tariffs and Trade negotiated with each other and with the original contracting parties to the general agreement. The results of the negotiations were contained in the Annecy Protocol of Terms of Accession to the General Agreement on Tariffs and Trade, which was presented at U.N. headquarters on Oct. 10, 1949, for signature by the 33 countries concerned.

United Kingdom. The value of the merchandise trade of the United Kingdom continued to reach record levels in the first nine months of 1949. Exports totalled £1,315 million compared with £1,150 million in the same period of 1948. Imports showed an 8% increase in value over 1948, reaching £1,680 million in the first nine months of 1949. The volume of exports for Jan.-Sept. 1949 averaged 48% above the 1938 level. This compared with an average of 36% above prewar for 1948 and 9% above prewar for 1947. Retained imports were still held below the 1938 volume, though they were greater than in any postwar year. For the first nine months of 1949 they averaged 87% of the level for 1938. In the year 1948 imports were 81% of the prewar level.

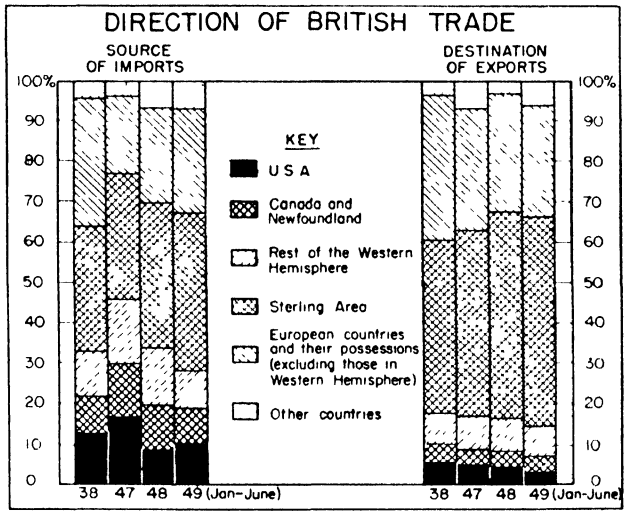


The trade deficit with the United States which had narrowed encouragingly in 1948 widened again in the first nine months of 1949 when imports tended to rise and exports fell off sharply. This situation, together with a worsening of the dollar position of the other sterling area countries and a shrinkage of the sterling area gold and dollar reserves, caused a financial crisis which led to devaluation of the pound sterling in Sept. 1949.

Britain's trade deficit with its other major dollar creditor, Canada, was larger than that with the United States in 1948, but in the first nine months of 1949 it had lessened appreciably. British exports to Canada continued to rise in 1949, while imports from that area fell slightly.

About 50% of Britain's exports went to sterling area countries in the first nine months of 1949 compared with 42% in 1938. The dollar area (the United States, Canada and the "American Account" countries) received about 9% in 1949, but took 11% in 1938.

Canada. Canadian foreign trade continued at a high level during the first nine months of 1949 with exports valued at $2.146 million and imports valued at $2,073·9 million.



Exports were $12·2 million less than during the corresponding period in 1948, while imports were $150 6 million greater, reaching a level higher than any ever before attained for a similar period. The volume of both imports and exports (*i.e.*, value with the price factor eliminated) was far greater than before the war. For 1948 the import volume index (1938=100) was 181; the export volume index was 173.

Exports of Canadian merchandise to the United Kingdom were $9·8 million greater than during the first nine months of 1948, and imports from that country were $23·4 million greater. The export balance (taking into account re-exports) in the trade with the United Kingdom dropped from $389·2 million to $288·4 million. In the trade with the United States, comparing the same periods, exports to the United States decreased by $16·6 million and imports increased by $147·9 million despite continued exercise of comprehensive import controls. The import deficit in the trade with the United States for Jan.-Sept. 1949 amounted to $431·7 million, $169 million greater than the deficit for the corresponding period in 1948, but $286·5 million less than the deficit during the nine months period in 1947.

In spite of increased imports from the United States during

1949, Canadian gold and dollar reserves to the end of September were held at just about the level recorded for the end of 1948 --$985 3 million compared with $997 8 million. This level represented a marked increase from that of $501·7 million recorded for the end of Dec. 1947. The steadiness in 1949 was partly related to the better balance of trade with European and sterling areas. The important factor, however, was "off-shore" purchasing in Canada by European Recovery programme countries using dollars allocated to them. Some $450 million in payments was reported in this connection in 1948; more than $300 million in such payments was anticipated for 1949. Canada financed some exports to the United Kingdom by permitting the resumption of withdrawals from the United Kingdom loan account to the amount of $10 million per month.

Australia and New Zealand. During the fiscal year ended June 30, 1949, exports from Australia amounted to £A547 million, 33% greater than the value of exports during the fiscal year ended June 30, 1948; imports into Australia during the same period amounted to £A415 million, 22% greater than the value of imports during the preceding year. Greatest increases occurred in exports to the United Kingdom, Italy, France and the U.S.S.R. and in imports from the United Kingdom, Indonesia and Sweden. Exports to the United States declined from £A35 million to £A32·3 million; imports from the United States dropped from £A66 8 million to £A41·5 million.

TABLE II GEOGRAPHIC DISTRIBUTION OF UNITED STATES FOREIGN TRADE

Country or area	Value (in millions of dollars) Jan.-Sept. 1948	1949	1936-38	Per cent of total Jan.-Sept 1948	1949
Exports to*					
Western hemisphere	3,955 5	3,758 5	33 9	41 7	40 1
Canada	1,402 7	1,502 7	15 3	14 8	16 0
Latin American republics	2,382 7	2,097 5	16 3	25 1	22 4
Other western hemisphere	170 1	158 3	2 3	1 8	1 7
Europe	3,239 5	3,221 3	41 9	34 1	34 4
United Kingdom	487 8	546 8	16 8	5 1	5 8
Other Europe	2,751 7	2,674 5	25 1	29 0	28 6
Asia	1,588 9	1,740 9	16·8	16 8	18 6
Oceania	105 3	150 6	3 1	1 1	1 6
Africa	599 1	492 5	4 3	6 3	5 3
Total	9,488 3	9,363 8	100 0	100 0	100 0
E R P countries†	3,165 0	3,185 6	38 0	33 4	34 0
Sterling area	1,467 0	1,478 5	28 2	15 5	15 8
Imports from‡					
Western hemisphere	3,013 1	2,914 0	37 1	57 3	59 8
Canada	1,092 4	1,080 0	13 8	20 8	22 2
Latin American republics	1,776 6	1,706 1	21 8	33 8	35 0
Other western hemisphere	144 1	127 9	1 5	2 7	2 6
Europe	818 8	674 9	28 5	15 6	13 9
United Kingdom	213 3	163 9	7 0	4 1	3 4
Other Europe	605 5	511 0	21 5	11 5	10 5
Asia	979 5	937 0	30 1	18 7	19 2
Oceania	129 7	94 7	1 6	2 5	2 0
Africa	308 3	249 0	2 7	5 9	5 1
Total	5,249 4	4,869 5	100 0	100 0	100 0
E R P countries†	697 3	614 9	24 4	13 3	12 6
Sterling area	1,040 3	857 8	30 7	19 8	17 6

* Including re-exports
† Metropolitan territories
‡ General imports

Exports from New Zealand amounted to £NZ147 8 million during 1948 compared with £NZ129 4 million during 1947. Imports in 1948 valued at £NZ128 million were at about the same level as in the preceding year. As in the case of Australia, New Zealand's principal export surpluses continued to be sold to the United Kingdom under long-term contracts.

TABLE III.--PERCENTAGE DISTRIBUTION OF FOREIGN TRADE OF METROPOLITAN E R P. COUNTRIES

Country or area	1938 %	1948*	Jan.-June 1949* %
Imports			
Source			
United States	11 0	18 2	18·4
Canada	3 9	4·6	3·8
Other western hemisphere	9·9	12 0	8·3
E.R P countries	38·7	31·8	34 0
Eastern Europe	10 4	5 4	5·0
All other countries	26·1	28 0	30·5
Total	100 0	100 0	100 0
Value (in millions of U S dollars)	12,539 3	24,502 1	13,053 3
Exports			
Destination			
United States	5 1	5 5	3 9
Canada	1 6	2·0	2 1
Other western hemisphere	7 7	8·3	7·2
E R P countries	51·2	45·0	45·0
Eastern Europe	10 5	5 5	5 7
All other countries	23 9	33·7	36·1
Total	100·0	100·0	100·0
Value (in millions of U S dollars)	9,358·0	16,952 5	9,879 3

* Preliminary figures

Union of South Africa. In 1949 the government of the Union of South Africa took further steps to arrest the continued decline in the country's gold and foreign exchange resources resulting from the unbalanced state of its trade. In March 1949, the union government expanded the list of prohibited imports and, from July 1, 1949, extended its import and exchange controls to cover imports from all sources including sterling countries

United States. Exports from the United States, although still large in 1949, showed a decline for the second consecutive year. After increasing in the first two quarters, largely because of expanded trade with countries participating in the European Recovery programme during the last two quarters of 1948, they declined sharply in the third quarter, somewhat further in the fourth quarter, and showed a drop of about 6% in total value for the year An estimate on the basis of Jan.-Nov. data, placed the year's total exports at $11,900 million compared with exports amounting to $15,340 million in 1947 and $12,650 million in 1948.

The decline from 1948 was largely the result of the downward trend in commodity prices beginning late in 1948 and continuing in 1949 In terms of quantity (the "value" figure adjusted for changes in the price level), the total export trade for 1949 was approximately as large as in 1948, although in the final quarter of the year it showed a decrease of about 10% from the 1948 quarterly average.

Imports into the United States decreased in the first three quarters of the year and, despite a marked increase in the final quarter, showed a decline for the year of approximately 7% from 1948. Total imports for 1949 were estimated at $6,600 million compared with $5,756 million in 1947 and $7,124 million in 1948 Although the lower level of prices accounted partly for the drop in value from 1948, the quantity of imports also showed some reduction.

The downward trend in exports and the rise in imports after the middle of 1949 narrowed the gap between exports and imports to approximately $800 million in the fourth quarter, the smallest quarterly export balance since before the war. At an annual rate, this quarterly balance amounted to $3,200 million compared with export balances of $9,600 million in 1947, $5,500 million in 1948 and an annual rate of $6,000 million in the first nine months of 1949.

Europe. During the period Jan.-June 1949 the total value of imports into countries taking part in the European Recovery programme amounted to $13,100 million, an increase of 5% over the 1948 half-year average; the value of exports

from the E.R.P. countries during the same period amounted to $9,900 million, 16% above the 1948 half-year average. The expansion in exports further narrowed the export-import gap. The trade deficit for the six months was at an annual rate of $6,300 million, compared with a deficit of $7,500 million in 1948. The 1949 trade deficit in terms of real prices was comparable with the 1938 deficit and the ratio of exports to imports was 76% compared with 75% in 1938. The export-import ratio in 1948 was 69%, and in 1947 it was 58%.

The heavy dependence of E.R.P. countries upon the United States as a source of imports showed no indication of decline for the group as a whole during the first six months of 1949 compared with the previous year. Of total imports into E.R.P. countries during this half-year period, 18.4% came from the United States, compared with 18.2% in 1948. The situation became all the more difficult because of the falling off in exports to the United States during the first half of 1949 and the trade deficit with the United States grew progressively larger.

The trend of European trade in 1948 and the first half of 1949 indicated a rise in volume of trade within Europe as well as with the outside world. Imports into E.R.P. countries from Eastern Europe in the first half of 1949 remained at about the 1948 level, but exports to Eastern Europe increased, bringing the trade between the two groups of countries more nearly into balance.

In Sept. 1949 the United Kingdom and many of the European countries devalued their currencies in an effort to improve their trade position with the dollar area. It was recognized that the long-term effects of devaluation would be exceedingly complex and that it would be some months before they would be clearly apparent.

In the autumn of 1949 a systematic attempt was made to deal with the problem of intra-European trade restrictions. At the recommendation of the O.E.E.C. (Organization for European Economic Co-operation) council in Paris each participating country removed quantitative restrictions from a substantial portion of its import trade originating in member countries. Licenses for commodities for which quantitative restrictions were removed were to be either abolished or granted automatically.

Middle East. In the middle east the foreign trade of most countries remained at high levels during 1949. Egyptian trade was greater in the first half of the year than during the first half of 1948. The foreign trade of Turkey was brought more nearly into balance, largely as a result of an increase in exports. Israel's trade showed some expansion, but commercial activity with neighbouring countries was still restricted. The foreign trade of Lebanon and Syria continued at a low level. Iraq's exports and imports were less than in 1948 and strict control was exercised over imports to hold down the adverse balance. Persia's trade position improved as a result of increased exports in the early part of the year.

Southern Asia. While the foreign trade of southern Asia (India, Pakistan and Ceylon) was at a very high level during the fiscal year 1948-49, being about one-fifth more than in the previous year, a sharp drop occurred in the fiscal year 1949-50. The official import trade of India during the year 1948-49 amounted to $1,563 million while exports were valued at $1,254 million, resulting in an import balance of $309 million. Pakistan also had an import balance of $72 million, as imports were reported to be $330 million and exports $58 million. These figures, covering only seaborne trade, do not reflect the overall trade between the two countries. It has been estimated that more than 75% of India's imports from Pakistan and about 40% of India's exports to Pakistan were by land trade rather than seaborne.

The trade impasse between India and Pakistan was brought to a crisis in September when the Indian rupee was devalued, while the value of the Pakistan rupee was retained. Disparity between the two currencies resulted in virtual cessation of trade between the two countries.

During the first nine months of 1949, imports into Ceylon totalled $237 million while exports from Ceylon totalled $229 million and the import balance amounted to $8 million.

Far East. The steady southward movement of hostilities in China accelerated the deterioration of that country's foreign trade. Civil strife in Burma, Indo-China and Indonesia interfered with production of rice, rubber, copra, coal, sugar and other exportable commodities upon which those countries depended for foreign exchange.

The foreign trade of Thailand (Siam) showed some expansion in 1949 over the previous year. Rice exports almost reached prewar levels and rubber exports exceeded prewar quantities.

Malaya, principal dollar earner of the sterling area, experienced a trade deficit in 1949 which exceeded that of 1948. Imports increased, while exports of tea and rubber on which the economy of the country depended declined, causing much concern.

The volume of Japan's foreign trade in 1949 increased over that in 1948 but the adverse trade balance was only slightly less than in the preceding year. On April 25, 1949, a single rate was established for the Japanese yen.

Latin America. Available statistics indicated a decrease in the foreign trade of the Latin American republics in 1949 from the record levels attained in 1947 and 1948. However, the 1949 trade was still at a high level compared with prewar years. The lower value of imports in 1949 showed the effects of intensified import and exchange controls. The heavy import demand characteristic of the postwar period continued but, because of the shortage of gold and dollar exchange reserves, most Latin American countries limited dollar imports to the most essential commodities. Among the factors in the lower value of exports in 1949 were declines in prices of a number of export commodities and uncertainty caused by devaluation of European currencies.

United States statistics showed a drop of 12% in U.S. exports to the Latin American republics in the first nine months of 1949 compared with the corresponding period in 1948. Imports from Europe increased notably in those republics which had large export markets in Europe. Trade with Europe was facilitated by a growing number of bilateral agreements, barter transactions and compensation agreements planned to overcome difficulties caused by inconvertibility of currencies. (*See* also BUSINESS REVIEW; EUROPEAN RECOVERY PROGRAMME; EXCHANGE CONTROL AND EXCHANGE RATES; INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT; INTERNATIONAL MONETARY FUND, TARIFFS.)

(T. C. BL.)

INVENTORS, AWARDS TO. The Royal Commission on Awards to Inventors set up in May 1946 under the chairmanship of Lord Justice Cohen continued to deal with referred claims for the use by the British government of inventions, designs, drawings or processes. A claimant had in the first instance to submit his claim to the government department concerned with its use. The commission dealt with claims under several heads; but the majority were cases where the inventor might have no legal right to compensation. To qualify for an *ex gratia* award the subject matter of a claim had to be an invention, design, drawing or process used by or on behalf of the crown and had to be of exceptional utility. Up to Nov. 8, 1949, approximately £262,000 had been recommended to meet claims.

Owing to the very large number of inventive ideas and suggestions submitted to various government departments,

the commission at the request of the Treasury set up an investigating committee consisting of two or three of its members to ascertain whether certain claims merited consideration by the commission. Dec. 31, 1949, was fixed as the final date for lodging claims. Claims were heard in public at Somerset house, London.

PRINCIPAL AWARDS MADE FROM NOV. 9, 1948, TO NOV. 12, 1949

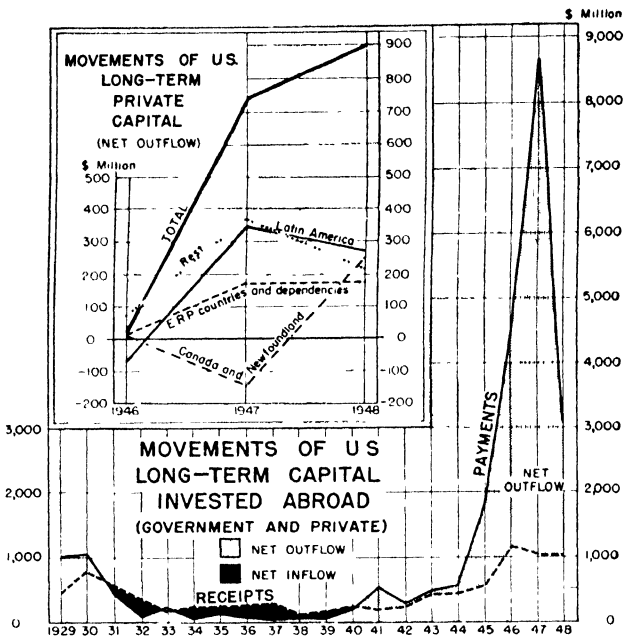
Name	*Subject*	*Award*
A. C. Hartley	Pluto	£9,000
B. J. Ellis	Pluto	£5,000
Lt. Col. P. D. Ionides	Hessian rapid airfield construction	£4 000
Caswick, Ltd.· Zbrojovka Brno, Narodni Podnik; Československa Zbrojovka Brno, Akciova Společnost	Machine guns and accessories	£5,000 in addition to sum already paid for earlier use
E. Terrell	Plastic armour	£9,500
Professor J T Randall, Dr. H. A H. Boot, Professor J. Sayers	Cavity magnetron	£36,000

(R. G. L.)

INVESTMENTS ABROAD. No statistics, official or otherwise, had been compiled after World War II about the outstanding capital amount of British investments abroad. The annual official publication *National Income and Expenditure of the United Kingdom* contained, however, figures indicating the annual net change in the total, and also the amount of dividends, interest and rent received from abroad by Great Britain and corresponding amounts paid on foreign investments in Great Britain. In 1948 foreign lending to Great Britain and sale of British foreign assets exceeded British investment abroad by £120 million compared with £630 million in 1947, £380 million in 1946 and £70 million in 1938. These figures were not arrived at by direct information about capital movements but indirectly from the size of the deficit of the British balance of payments for those years. From information arising from the operation of exchange control there were now means for ascertaining the actual amounts of investment and disinvestment abroad without relying on indirect calculations, but no use was made of these facilities.

The total of dividends, interest and rent received by Great Britain on investments abroad in 1948 was estimated at £162 million, compared with £153 million in both 1947 and 1946 and £205 million in 1938. Simultaneously the total of dividends, interest and rent paid by Great Britain to overseas investors increased from £37 million in 1938 to £97 million in 1946, £120 million in 1947 and £122 million in 1948. Thus the net receipts from overseas investments amounted to only £40 million in 1948, compared with £168 million in the last prewar year. There was evidence that, during 1949, the declining trend of net receipts continued, owing to liquidation of British foreign assets. Great Britain continued to invest abroad, especially in the colonies, but a large part of these new investments, such as the amount expended on the groundnuts scheme in Tanganyika, had not begun to yield any income.

The annual report of the Council of Foreign Bondholders reported no additional defaults on British-held foreign loans in 1948. The total capital amount of the loans under complete default was nearly £500 million in 1949. More than a quarter of this amount was due from countries whose economies had become disrupted by enemy occupation and about two-fifths was owed by Austria, Germany and Japan. Debt settlements were negotiated with Italy, Bulgaria and Chile. Italy undertook to make full payment of all arrears incurred between the outbreak of World War II and the conclusion of the peace treaty (with the exception of the Italian share of the guaranteed Austrian League of Nations loan which remained in default). The Bulgarian government agreed to



the resumption of partial payments of coupons from 1940. Chile resumed the payment of interest at reduced rates rising from 1·5% for 1948 to 3% from 1954 onward. A sinking fund payment of 1% was also provided.

During 1949 the position and prospects of British investments abroad underwent a considerable deterioration. Apart from the three countries named, defaulting debtors did not show increasing willingness or ability to meet their liabilities. Owing to the unsatisfactory outlook for receiving payments from Germany, the government introduced the Distribution of German Enemy Property bill under which German assets taken over by the government were to be distributed among British claimants. The dividend derived through this distribution was not expected to be substantial.

The outlook became particularly unsatisfactory as far as the large British investments in China were concerned, owing to the victory of the Communists over the Nationalist government during 1949. Judging by experience with various European debtor countries under Communist regimes, the prospects of obtaining any substantial payments on the large loans to China or on British capital invested in industrial or commercial undertakings were not very promising. Compensation paid or even promised on nationalized British assets in eastern European countries had so far been negligible. No compensation had been received from Burma, partly owing to the disturbed state of the country due to civil wars, and partly owing to left-wing pressure favouring repudiation.

Devaluation of sterling did not affect the sterling value of the foreign loans held in Great Britain, since practically all of them were issued in terms of sterling without any gold or currency clause. Investments representing tangible assets tended to continue to appreciate nominally owing to the rising trend of prices in many foreign countries. There was a noteworthy rise in the sterling value of South Africa and other gold mining shares as a result of the increase in the price of gold in terms of the currencies of the gold-producing countries.

The liquidation of British assets abroad in payment for the current trade deficit continued in 1949 but not on as large a scale as in 1948. The sale of the Leopoldina railway and the Great Western of Brazil railway was negotiated. Repatriation of foreign securities through individual purchases in relatively small amounts by residents in debtor countries continued.

Foreign Investment in Great Britain. There was no large-scale influx of American or other private capital into Great

Britain during 1949. Although elaborate provisions were made in the European Recovery programme to facilitate the investment of American capital in British industries, the exchange guarantee facilities offered by the United States government were not made use of to a noticeable extent. The British government undertook not to discriminate against American capital in the granting of licences for the erection of factories. Notwithstanding this and the elimination of the transfer risk through the exchange guarantees American enterprise showed little keenness in opening branch factories in Great Britain. This reluctance was due in part to fears of unfair competition by nationalized industries through the latter being favoured by the government. Although the government undertook to pay fair compensation for nationalized American industrial firms, the risk of working at a loss owing to such competition acted as a deterrent.

Another consideration that tended to discourage American enterprise was the prospect of economic difficulties in Great Britain arising from lack of dollars to pay for raw material imports. The possibility of the termination of American assistance at the end of the Marshall aid period was viewed with concern, and American industrial interests preferred to await developments before committing themselves. Although there was much discussion about American investment in a large scale in British colonies, no actual progress was made.

During 1949 Great Britain continued to receive Marshall aid, part of which assumed the form of a dollar loan. On the other hand, part of the South African gold loan of £80 million granted in 1948 was repaid. The Canadian dollar loan was drawn upon to the extent of $27 million.

The repayment of sterling balances accumulated during World War II by overseas countries continued on a large scale. During the first nine months repayments amounted to £206 million. It was generally admitted that the speedy liquidation of these war debts at a time when Great Britain's trade balance continued to show a big deficit contributed largely towards the aggravation of the country's dollar difficulties. For it was assumed that a large proportion of the goods exported to the sterling area and financed with the aid of sterling released from wartime balances could have been exported to the dollar area or the hard-currency countries. Or, in the absence of the large exports arising from war debt repayment, the manpower and raw materials used in the production of goods needed for such exports could have been used for the production of goods needed by the dollar area or other hard currency countries.

The realization of these considerations during the financial talks in Washington in Sept. 1949 led to a resolution that the United States and British governments should examine jointly the ways in which the former could assist in the liquidation of wartime balances. Pending the outcome of these discussions, two important changes in the British government's attitude towards these balances became evident. The prime minister and other ministers urged industrial firms, in public statements, to divert their exports, as far as possible from the sterling area to the dollar area. British exporters were exhorted by the government, in the interests of the dollar drive, to refuse orders from holders of released wartime sterling balances in order to be able to accept orders from the United States and Canada.

The other important change of policy was announced by the Chancellor of the exchequer who informed the House of Commons that the government did not intend to obtain a drastic scaling down of the sterling balances by presenting to the countries holding them counterclaims for services rendered to them by Great Britain during World War II and that the government did not seek to re-open negotiations on existing temporary agreements with holders of sterling balances, which were concluded before the aggravation of Great Britain's dollar problem and under which the repayments of these war debts would have to continue for some time on what was subsequently recognized to be an excessive scale. (P. EG)

United States Investments Abroad. The flow of U.S. capital to foreign countries that was resumed at the end of World War II continued in diminished volume during 1949 and contributed to raise the value of U.S. investments in foreign countries (and international organizations) to approximately $31,700 million on Sept. 30, 1949—an increase of about $200 million over Dec. 31, 1948. Unlike previous years, when loans by the United States government dominated, the bulk of new foreign investments accounting for this increase was made by the private section of the economy whose investments, including the reinvested earnings of subsidiaries in foreign countries, accounted for about $650 million of the $1,200 million of government and private capital investments abroad during this period. However, the effect of new investments on the total value of U.S. investments abroad was offset by the devaluation of leading foreign currencies during Sept. 1949 which may have had the effect of reducing the value of U.S. investments abroad by roughly $750-1,000 million.

Direct investments accounted for $370 million of estimated private capital outflows during the first nine months of 1949 together with an additional $370 million of reinvested earnings, while the only foreign borrowing in the United States of any consequence involved a $100 million government of Canada bond issue.

From the published data it appeared that the outflow of U.S. direct investment capital in 1949 would fall below the record of almost $800 million set during 1948.

Early in 1949 interest in U.S. private foreign investments was stimulated by the fourth point of the inaugural address of President Harry S. Truman, who called for increased American technical assistance and productive investments in under-developed areas. The primary purpose of this programme was to help the people of economically under-developed areas, who comprise a large part of the world's population, in their efforts to develop their human and natural resources, to increase their productive capacities and to raise their standards of living.

During 1949, the president requested congress to authorize an experimental programme in order to guarantee newly invested private capital in undeveloped countries. The capital would have to contribute to the economic development of such areas and would be guaranteed against risks related to foreign investments, other than ordinary business risks. Outstanding among such risks proposed for a programme of government guarantees were those of (1) non-convertibility of returns derived from the investment, including capital, and (2) loss through seizure, confiscation, or expropriation, without prompt, adequate and effective compensation. Ordinary business risks, such as those encountered by a business operating in the United States were not included in the proposed programme.

Foreign Investments in the United States. The value of foreign investments in the United States was practically unchanged during the first nine months of 1949 and stood at approximately $17,000 million at the end of September. The general ability of citizens of other countries to retain American assets in the face of continuing balance-of-payment deficits with the United States was an evidence of the success of the European Recovery programme in rendering aid to foreign countries. The effectiveness of this aid had been apparent in an increase in foreign short-term balances in the United States during the last half of 1948 and the first quarter of 1949, following the serious decline that began with the termination of lend-lease aid in 1945. However, banking

and other short-term claims of E.R.P. countries on the United States again declined in the second quarter of 1949 as a financial crisis developed, particularly in the United Kingdom. Following the devaluation of the pound sterling and the currencies of other leading countries in mid-September there was some evidence of a recovery in short-term claims on the United States.

According to preliminary figures of the U S Department of Commerce, the devaluation of the pound in Sept 1949 was preceded by losses of short-term banking claims on the United States and sales of gold to that country of about $29 million in the first quarter and $269 million in the second quarter of the year. During the third quarter, the loss amounted to $237 million. At the close of September, British short-term banking claims on the United States were about $439 million as compared with $546 million nine months earlier.

The decline in total foreign short-term banking claims on the United States in this period aggregated $165 million. After Great Britain, the declines were largest for the republic of the Philippines ($140 million), China ($92 million) and Italy ($48 million). However, the Italian loss of about $100 million in the third quarter of the year merely reflected the shift of that sum to gold, purchased from the U.S. Treasury. Increases were largest for the following countries: Japan ($80 million), Canada ($52 million) and the Netherlands ($43 million). The Canadian acquisition of United States funds reflected the flotation of $100 million of Dominion of Canada bonds in the United States during the third quarter of the year.

Foreign countries and international organizations made net purchases of approximately $86 million of the long-term securities of United States corporations and bonds of the U.S. government during the first nine months of 1949. Such acquisitions were in contrast to the general experience of earlier years when countries in Europe and Asia sold substantial holdings of U.S. stocks and bonds largely as a means of meeting their balance of payments deficits on current account.

If changes in the holdings of American securities by the International Bank for Reconstruction and Development were excluded from foreign acquisitions during the first three quarters of 1949, it appeared that over all purchases and sales by foreign countries of American securities were in approximate balance, although the experience varied from country to country. Net purchases by the International bank in this period were securities issued by the United States government.

Countries participating in E.R.P. purchased about $35 million of stocks and bonds according to data published by the U.S. Treasury Department although, if trading for Swiss account is eliminated, transactions for other E.R.P. countries were about in balance during the first nine months of 1949. Since it was known that several E.R.P. countries were in great need of dollars during this period, particularly in the second and third quarters, the absence of large liquidations of U.S. securities suggested that certain countries had probably exhausted their holdings of readily marketable securities. This may have been the case for France and the Netherlands. These two countries, as well as others, had been aided earlier by the U.S. Treasury in identifying the U.S. assets of their nationals which had not been reported to them and had presumably liquidated such security holdings as had been revealed by the Treasury. Nationals of the United Kingdom had sizable holdings of securities, although the choice of these was still pledged with the Reconstruction Finance corporation as collateral for a loan granted to England in 1941 and were therefore not available for sale.

Of the countries receiving assistance from the Economic Co-operation administration of the United States, Switzerland engaged in the largest volume of transactions of U.S. stocks and bonds during the first nine months of 1949 and on balance purchased about $36 million The acquisition reflected the relatively sound economic position of that country strengthened by its wartime neutrality, although a portion of Swiss security purchases presumably were for residents of other countries for whom Switzerland acted as a banking centre.

United Kingdom purchases in this period of $12 million of securities were probably for the account of non-British subjects since the exchange control system of that country would presumably not have permitted the use of scarce dollars for portfolio investments. The Netherlands sold about $15 million of U.S. stocks and bonds, continuing the programme begun in 1948 of liquidating its nationals' dollar holdings In that year $78 million of Netherlands assets were sold. France had followed a similar programme during 1948 liquidating about $72 million of American securities, although in 1949 changes in French holdings of United States securities were negligible up till September and appeared to consist of switching from holdings of shares to investments in bonds. Italy and Belgium made small security purchases in the latter period.

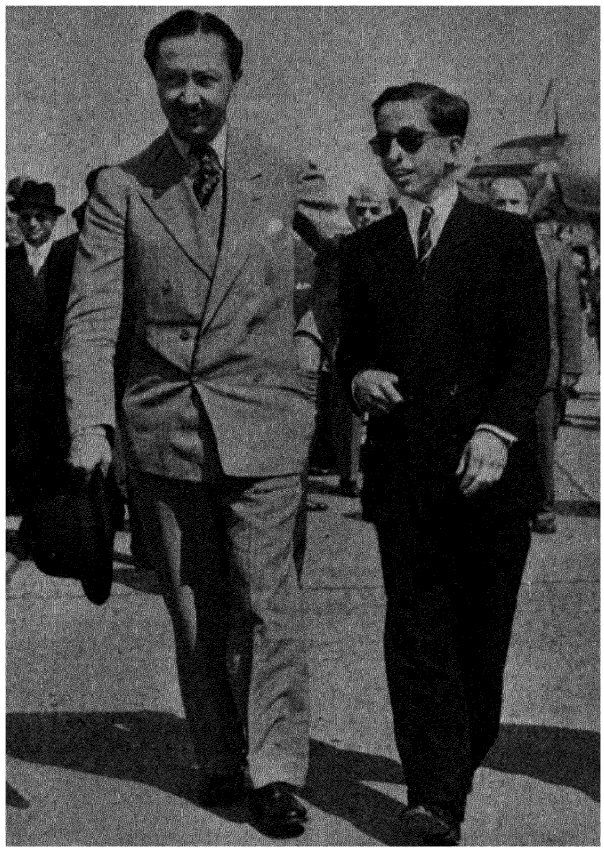
As a result of transactions and small rises in the quoted prices of stocks and bonds, the value of foreign-held U.S. portfolio securities increased by about $192 million during the first three quarters of 1949. About $106 million of the rise reflected security price increases and the balance, the previously mentioned combined net purchases of foreign countries and international organizations.

The latest report available during 1949 on the activities of the Office of Alien Property of the United States related to the fiscal year ended June 30, 1948. On the latter date, the office held title to former enemy property in the United States with a value of $340 million and held another $3 million of assets in safekeeping or under supervision In addition, the annual report of the organization stated that about $61 million of vestible property had not been vested (seized) by June 30, 1948. From its inception in March 1942 to that date, the office and its predecessor organization had received about $125 million from the sale and liquidation of business and personal property it had taken from enemy aliens. (*See* also BALANCE OF PAYMENTS) (M. AB.)

IRAN: *see* PERSIA.

IRAQ. Independent Arab kingdom of Mesopotamia, bounded by Syria, Turkey, Persia, the Persian gulf, Saudi Arabia and Jordan, watered by the Tigris and Euphrates. Area: 168,040 sq. mi Pop.: (1935 official est) 3,560,456; (Oct. 1947 census): 4,794,449. Religions (approximately): Moslem 91% (Shiah Arabs 45%, Sunni Arabs 15%, Sunni Kurds 25%, Shiah Persians 3%, Sunni Turks 2%, etc.); Christian 5%, falling into three main groups (a) Roman Catholics of Chaldean, Syrian and Armenian rites, the strongest community (*c.* 100,000) being Chaldean, (b) Greek Orthodox and (c) free churches (Syrian Jacobite, Gregorian Armenian, etc.); Jewish 2·5%; others 1 5% (Yezidi, Sabaean, etc.). Languages: Arabic 67%, Kurdish 25%, Persian 3%, Turki 2%, others 3%. The Sunni Arabs are the ruling class. Chief towns (pop. est. 1946): Baghdad (cap., 832,927), Mosul (279,361), Basra (181,814). Ruler, King Faysal II (born May 2, 1935); regent, Prince Abdulilah (*q.v.*); prime ministers in 1949, General Nuri Pasha as-Said (*q.v.*) and (from Dec. 10) Ali Jawdat al-Ayyubi.

History. On Jan. 6 the government of Muzahim Amin al-Pachachi resigned and was succeeded two days later by one headed by Nuri Pasha as-Said, who at once sent messages to other Arab governments announcing the determination



King Faysal of Iraq, who was studying in England, with his ***uncle,*** *Abdulilah Ibn Ali, Regent of Iraq, at London airport on July 10, 1949, when the Regent arrived in Britain.*

of Iraq to continue action to free Palestine and strengthen the Arab League (*q.v.*).

On Feb. 14-15 Yusuf Salman Fahad, secretary general of the Communist party of Iraq, and three other Iraqi Communist leaders were sentenced and hanged after conviction by a court martial of activities aimed at destroying the foundations of the state and instigating elements of the Iraqi armed forces to join their subversive organization. A number of further arrests of Communists and others was subsequently reported.

The cabinet was re-shuffled on March 18, Abdulilah Hafiz being replaced at the foreign ministry by Dr. Fadil Jamali, who as Iraqi minister in Cairo had been due to attend the meeting of the Arab League council there on March 17 but had been urgently summoned to Baghdad instead. In a press conference on March 22 he stated that Iraq continued to support the Arab League while envisaging certain changes in its organization. It was unfortunate that the enforced absence of the Iraqi delegate from the first two sittings had been interpreted as a change of attitude by Iraq. The *chargé d'affaires* who attended the last session on March 21 had not received his instructions from the cabinet sooner owing to the cabinet changes.

The prime minister's visit to Syria (*q.v.*) on April 16, followed by the statement that Iraq and Syria would stand together against aggression, was connected by many with the press reports that credited him with a plan to unite Syria with Iraq under King Faysal II and a council of regency. This was known as the " fertile crescent " plan, in distinction from the Greater Syria plan of King Abdullah of Jordan. In a parliamentary statement of May 3, the Iraqi foreign minister said his country's foreign policy was based on maintaining the independence and safety of Iraq according to the principles of the Arab revolt. The recent coup d'état in Syria was a domestic affair, but Iraq would welcome unity with Syria if Syria desired it. Iraq's attitude to the Arab League was based on its charter. He accused the secretary general of the League of having " given himself authority " which was not his by right. (This was believed to have been prompted, among other things, by Azzam Pasha's visit to Husni ez-Zaim the day after Nuri Pasha's visit and the dictator's subsequent repudiation of all plans of union). Iraq, he said, favoured revision of the statutes so as to curtail the powers of the secretariat and to encourage bilateral alliances among the member states.

In a foreign policy statement of June 1 the prime minister told the Iraqi Senate that he would send Muzahim Amin al-Pachachi to Cairo to discuss Iraqi-Egyptian differences. With Great Britain, he said, it was necessary to negotiate a new treaty; but Iraq preferred to participate in a general pact grouping the Arab independent powers, like the North Atlantic treaty. They had been opposed in 1920-21 to the division of the Arab countries into Lebanon, Syria, Iraq and Palestine and regarded the division as exclusively imperialist. It was therefore surprising that the unification of these regions today should be called an imperialist project.

On June 14 the foreign minister accompanied the Regent on a week's visit to Tehran. The Regent also visited London to see his nephew King Faysal, who was at school at Harrow, and on July 16 called on Ernest Bevin. Later the prime minister went to London, where he was received by Mr. Bevin on Aug. 20. The resumption of oil pumping through the pipeline to the Haifa refineries was discussed both with him and with the oil companies; but no agreement could be reached and oil pumping had still not been resumed by the end of the year. On his way back to Iraq he had meetings in Alexandria with Hussein Sirry Pasha, whom he assured on Aug. 5 that Iraq did not intend to force any form of a Greater Syria plan on other Arab states.

It was officially announced in Baghdad on Aug. 28 that while in London Nuri Pasha had secured loans totalling £10·5 million, of which £3 million were from the London market for the Iraqi state railways, £4·5 million from the International bank for reconstruction schemes up to 1952 and £3 million free of interest from concessionary oil companies.

In August the report was published of the Irrigation Development commission under F. F. Haigh recommending schemes which it was estimated would double the irrigated land of Iraq. The additional 16 in. pipeline from Kirkuk to Tripoli was completed and oil began to flow on Aug. 1.

The Iraqi forces in Palestine were withdrawn during March and April and the Iraqi military government in the Jenin-Tulkarm area handed over to the Jordanian authorities. Iraq was not represented at the Palestine armistice negotiations at Rhodes, where Jordan negotiated on its behalf, nor at the meeting with the U.N. Conciliation commission in Lausanne.

On Nov. 7 Nuri Pasha resigned and on Dec. 10 a coalition government was formed under the premiership of Ali Jawdat al-Ayyubi. (C. Ho.)

Education. (1946-47) Schools: elementary 1,057, pupils 143,070, teachers 5,627; intermediate and secondary 151, pupils 20,424, teachers 1,174; technical 48, students 7,756; colleges 7, students 3,644 (excluding the Engineering college); institutions of higher education 10.

Agriculture. Main crops ('000 metric tons, 1948): barley 588; wheat 327; rice 370; dates (1947) 305; tobacco (1949) 4; cotton 1. Livestock ('000 head, Dec. 1946): sheep 8,000; cattle (1945) 866; asses 435; horses (Dec. 1945) 198. Wool production ('000 metric tons, 1948-49) 11.

Industry. Crude oil ('000 metric tons, 1948; 1949, six months, in brackets): 3,427 (1,658).

Foreign Trade. (1948) Imports ID46 million; exports, including oil, ID20 million. Principal imports: cotton piece-goods, iron and steel, machinery and sugar. Principal exports: oil, dates, wool and cereals. Main sources of supply: United Kingdom 43%, United States 7%, Italy 6%. Main destinations of exports (excluding oil): India 19%, United Kingdom 17%, United States 13%.

Transport and Communications. Roads: 4,200 mi. Licensed motor vehicles (Dec. 1948): cars 6,130, commercial vehicles 7,600. Railways (1946-47): 966 mi.; passenger-mi. 392 million; freight net ton-mi. 377 million. Air transport (1947): mi. flown 787,451, passenger-mi. 3,868,787. Telephones (1947): subscribers 13,043.

Finance and Banking Budget: (1949-50 est.) balanced at ID25 million. Currency circulation (Aug. 1949; in brackets, Aug. 1948) ID35·4 (33·5) million. Bank deposits (Aug. 1949; in brackets, Aug. 1948) ID12·0 (12·1) million. Monetary unit: *Iraqi dinar* at par with the pound.

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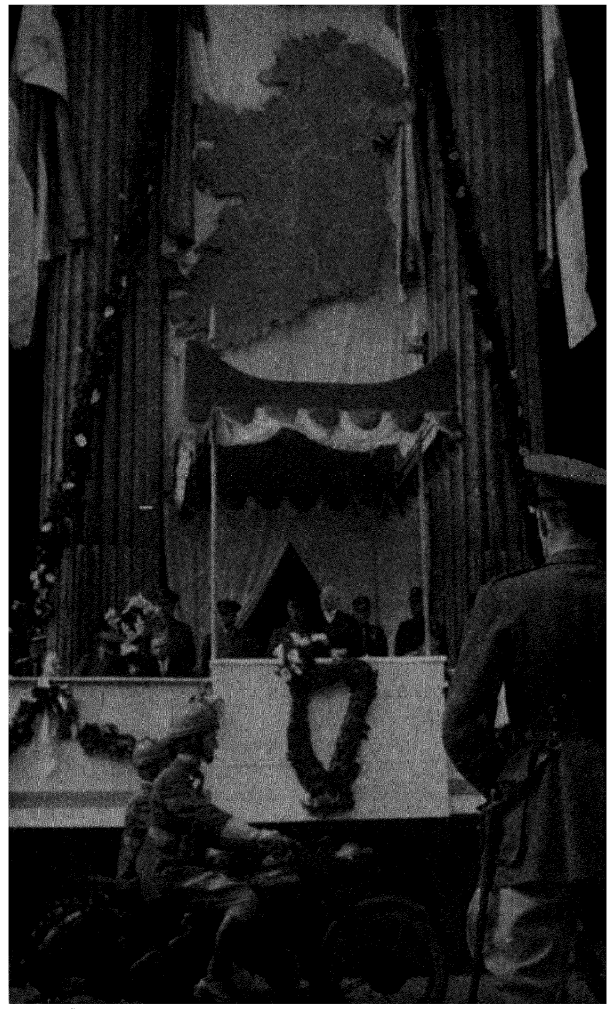
IRELAND, NORTHERN: *see* NORTHERN IRELAND.

IRELAND, REPUBLIC OF. An independent republic covering five-sixths of an island to the west of Great Britain. Area: 26,601 sq. mi. Pop.: (1946 census) 2,953,452; (Oct. 1948 est.) 3,023,000. Language: English *c.* 76%, Erse (Gaelic) *c.* 24%. Religions (1936 census): Roman Catholic 93·4%, Episcopal 4·9%, Presbyterian 1%, Methodist 0·3%, Jewish 0·1%, other 0·3%. Chief towns (1946 census): Dublin (cap., 506,635); Cork (75,361); Dun Laoghaire (44,689); Limerick (42,987); Waterford (28,332). President, Seán Thomas O'Kelly (*q.v.*); prime minister, John A. Costello; minister of external affairs, Seán MacBride.

History. It might seem unimportant that the Irish government celebrated New Year's day by announcing that white bread of a prewar standard would once again be allowed in the shops. True, the bakers received this offer with stony refusals, claiming that the 75% extraction flour was too dear, but the gesture was typical of the government's efforts to return to a state of life unrestricted and decontrolled. John A. Costello's inter-party government, largely composed of the " conservative " Fine Gael, reiterated in the words of its minister for industry and commerce, Daniel Morrissey, that it " intends to preserve the system of private enterprise in industry." That such a policy was possible in 1949 was perhaps due to the fact that large wage increases granted after the Emergency Powers " standstill order " was repealed in March 1946 had raised the earnings index to a point almost exactly level with the cost of living index. Retail prices remained constant for over a year. And so, although the prices of clothing and of whisky rose during 1949 when they were de-restricted, though interest rates rose as banks tried to draw in the horns of credit, there was comparatively little labour trouble in the republic. The January dockers' strike in Dublin's deep-water port and a six-week strike in the freight department of Córas Iompair Éireann (Irish Transport company), during August and September, caused some inconvenience but were not indicative of any deep unrest. The unions, indeed, were in more trouble with each other than with the employers. In July arrangements for a conference between the Congress of Irish Unions and the Irish Trade Union congress (which was affiliated to the British T.U.C.)—a conference which was to discuss their amalgamation—were broken off when the two bodies failed to agree on preliminary conditions.

The government's outstanding problem was to curb inflation while embarking on the most expensive investment schemes the country had ever experienced. A ten-year housing scheme was expected to cost £100 million; another £17 million was to provide hospital accommodation for a further 2,540 beds; James Dillon, minister for agriculture, announced a project to reclaim 4 million ac. of unproductive land in ten years at a cost of £40 million. Yet all the signs were not pointing to inflation. In the seven months ending in June 1949 savings bank deposits increased by over £2 million and there was also a big recovery in savings certificates. But John Costello pointed out in November that current savings might not be enough to finance the capital investment to which his government was committed and stated that Irish sterling assets in the United Kingdom, whose net total was then about £225 million, might have to be transferred for use at home.



President Seán T. O'Kelly (on dais) taking the salute during the march past in Dublin on April 18, 1949, to celebrate the founding of the Republic of Ireland.

Side by side with the government's believers in private enterprise and in state enterprise, marched the cabinet's left wingers, believers in state welfare; and they found the going harder. After some delay and much toil William Norton, minister for social welfare and leader of the Irish Labour party, produced in October his White Paper on compulsory insurance. The scheme was planned to cover every person over the age of 16 who worked for an employer, though the position of state employees was left uncertain. Male workers were to contribute 3*s.* 6*d.* a week, female 2*s.* 6*d.* and employers a similar amount. Unemployment and disability benefit would be at the rate of 24*s.* for a single man, 36*s.* for a married man with an addition of 7*s.* for each of two children under 16. Retirement pension (24*s.*), widow's pension (24*s.*), maternity and death benefits were included. Norton stated

that the government intended to go through with this scheme, though there were rumbles of opposition—especially from the clergy—both on the general ground that such social security saps the worker's initiative and on the particular ground that the White Paper did not appear to cover a large proportion of the population. Meanwhile Noel Browne, Clann na Poblachta (Republican party), minister for health, continued to prepare a scheme for state medicine, while the Medical Association of Ireland, unable to extract any details of the plan, gathered their strength to oppose what they feared would be the worst.

Politically the drama of the year was the declaration of an independent Irish republic one minute after midnight on Easter Monday, though what should have been heroic history showed signs of tragi-comedy The six counties of Northern Ireland ignored the declaration, the Anglophile *Irish Times* greeted it with a distant leader on "China's Dilemma" but King George VI sent a message of goodwill to the new republic whose focal point of inspiration was hatred of his crown. Many of Costello's Fine Gael supporters, strong lovers of the British connection, were left desolate in the belief that Costello had given way to the Republican views of Seán MacBride, minister for external affairs. But MacBride said the whole idea was Costello's and so left the public more amazed than jubilant or indignant. From Belfast Sir Basil Brooke announced that this step must perpetuate partition, and he seemed in part confirmed when in May the British parliament passed the Ireland act which, while it allowed the citizens of the republic the same rights as those of the Commonwealth, guaranteed the special position of Northern Ireland for so long as the majority of its people wished to preserve it. The Ireland act provoked unanimous indignation in the south and a large protest meeting was held in Dublin.

Financially, the republic had a good year. For the first six months of 1949 exports were up 36% and imports down 15% against the comparable figures for 1948. It seemed that the republic's adverse trade balance, which in the postwar years had been running at £90 million to £100 million a year, might be cut to about £70 million, and this—bearing in mind invisible exports, chiefly earned by the tourist industry—would bring the balance of payments near to equilibrium. Agriculture was expanding after a number of stagnant years, the volume of domestic exports for the first six months of 1949 increased by 32% over the figures for the 1948 period. (But there was still a long way to go if prewar standards were to be reached; in Jan.-June 1949, for instance, 202,000 cattle were exported, 50,000 more than in the same period the previous year; the equivalent figure in 1938 was 296,000). Wheat production per acre was increasing, the export of eggs reached a value of £5 million and bacon exports were resumed towards the end of the year for the first time since the war. As for industry, which together with services was producing an output valued at about two-thirds that of Irish agriculture, Morrissey pronounced himself satisfied. Unemployment had slightly decreased. One problem, especially in view of the projected government works, was the continued inability of Bord na Mona (Fuel board) and the Electricity Supply board to get men to work on schemes that would take them away from their homes. There was also a serious shortage of skilled building workers and a campaign was begun to attract Irishmen in Britain back to Ireland.

The Irish theatre lost much by the death of George Shiels on Sept. 19; it gained little in new works, the best of which were *Bugle in the Blood* by Bryan MacMahon and *In Sand* by Jack B. Yeats. In sport, Ireland once more won the Triple Crown both for rugby football and hockey; and Harry Bradshaw, of Kilcroney, only lost the British open golf championship after a play-off with Bobby Locke.

The republic, in fact, could look back on 1949 with some confidence. Tourists continued to flood in with their welcome money (on a single Friday in July over 10,000 arrived from Britain). E.C.A. headquarters considered that the government had prepared realistic and ambitious plans for the recovery and development of the country. The budget reduced income tax by 6*d.* to 6*s* 6*d.* in the pound. Sentimentalists regretted that the last Dublin tram ran on July 9 The whole nation mourned Dr. Douglas Hyde (*see* OBITUARIES), first president of Eire, who died on July 12. But the country looked forward with some cheerfulness to 1950 And Costello's government, which at the time of its creation many had thought a shaky makeshift, consolidated its position by winning a seat from Fianna Fáil in a November by-election in West Donegal and could face the future with special confidence. (R. KN.)

Education (1947-48) Schools elementary 4,946 pupils 444,132, teachers 12,772 secondary 404, pupils 43,780; universities (National and Trinity college) students 7,202, professors and lecturers 558.

Agriculture. Main crops ('000 metric tons, 1948) wheat 416, oats 805, barley 102, rye 5, potatoes 3,328, flax 3 6 Livestock ('000 head June 1948) cattle 3,921, sheep 2,058, pigs 457, horses 421; poultry 20,045 Fisheries total catch (1948) weight 20,725 metric tons, value £615,446 Food production ('000 metric tons, 1948; 1949, six months, in brackets), butter co-operative creameries only, 28 8 (12 6), cheese 2 4 (0 4), meat 120 0 (53 4)

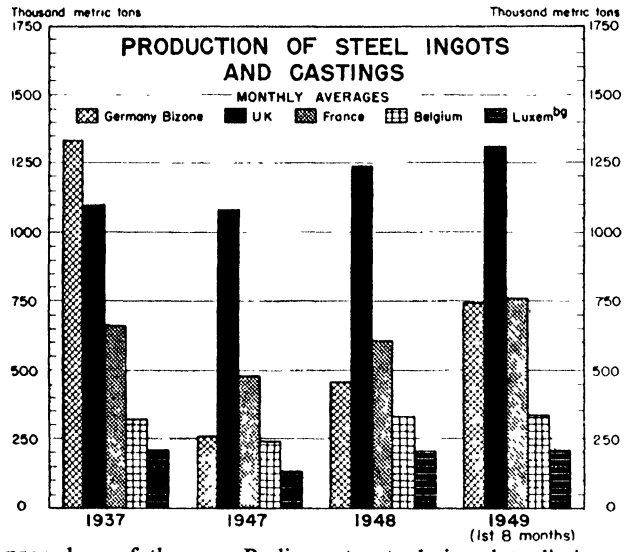
Industry. (1947) Persons employed in industrial establishments 183,444 Fuel and power (1948, 1949, six months, in brackets): coal consumption ('000 metric tons) 177, manufactured gas (million cu. m.) 144·0 (72 6), electricity (million kwh.) 689 (380) Index of industrial production (1937=100, 1948, 1949, six months, in brackets); 130 (134) Manufactured goods (1947) distilled spirits ('000 proof gal.) 1,501; stout, porter, ale and beer ('000 barrels) 1,485, woollen and worsted tissues ('000 sq. yd.) 6,345, cotton piece goods ('000 sq. yd.) 5,884, boots and shoes (million pairs) 5, cigarettes ('000 lb.) 9,023

Foreign Trade. Imports (1948) £136 7 million, (1949, six months) £63 8 million Exports (1948) £47 5 million, (1949, six months) £27 7 million Main imports machinery and vehicles, wheat and corn, textiles and coal Main exports cattle and horses, meat, fish and dairy products, ale In 1948 54% of total imports were supplied by the United Kingdom, and 87% of total exports in 1948 went to the United Kingdom

Transport and Communications. Roads (1949) 49,071 mi. Licensed motor vehicles (Dec. 1948) cars 60,453, commercial vehicles 36,535 Railways (1948) 2,440 mi., freight (net ton-mi.) 320 million Shipping (1948) total tonnage 43,663 Air transport (Aer Lingus, 1948) flights 11,908, mi. flown 2,542,783, passengers flown 180,470, cargo carried 1,080 tons, mail 70 tons Telephones (1946) subscribers 55,426. Wireless licences (1948) 255,000

Finance and Banking. Budget (1948-49) revenue £71 69 million, expenditure £71 94 million, (1949-50 est.) revenue £73 35 million, expenditure £73 14 million National debt (March 1948, in brackets March 1947) £104 8 (100 8) million. Currency circulation (Sept. 1949, in brackets Sept. 1948) £51 8 (47 6) million Gold reserve (Sept. 1949, in brackets Sept. 1948). 11 (11) million U.S. dollars Bank deposits (end 1949, in brackets end 1948) £242 2 (237 6) million Monetary unit *Irish pound* at par with the pound sterling

IRON AND STEEL. During 1949 the iron and steel industry of Great Britain lived under the shadow of impending change. It could not be said that the government's decision, announced in November, to postpone until after the general election the operation of the bill to nationalize the industry made any vital difference to the outlook. For some time it had been apparent that state control could not be made a working reality until after the election and that, in fact, the future shape of the industry would be left to the voters. The government's decision did at least bring to an end what had developed into a battle over the bill between the two houses of parliament. In May the bill passed its third reading in the Commons. A Conservative motion to reject it was defeated by 333 votes to 203. Before it came up for detailed discussion in the House of Lords, Lord Salisbury presented what was called "an ultimatum" from the Conservative peers: either the government should agree to postpone the operation of the act until the country had pronounced judgment on it at the general election; or the Conservative peers would compel the government to carry it under the



procedure of the new Parliament act, designed to limit to one year the power of the Lords to delay legislation. To this Lord Addison, for the government, gave a non-committal reply and in June the Conservative and Liberal peers joined in carrying a group of amendments which postponed operation of the bill until Oct. 1, 1950, and the vesting date until July 1, 1951. The date selected by the government for the transfer of assets to the state had been May 1, 1950. On July 26 the bill was back in the Commons, with 60 amendments. Of these the government accepted 23, on the ground that they did not interfere with the government's general intention. But the minister of supply said that the government did not intend to accept any significant change and the delaying amendment was rejected. In due course, the Lords restored it and on Nov. 16, the Commons considered the Lords' reasons for insisting on the amendments with which the Commons had disagreed. The minister said that May 1, 1950, could no longer be the date of transfer. Even if the bill became law under the new Parliament act, the government would have so to rush the preliminary steps required to make May 1 the take-over date as to jeopardize the successful launching of the scheme. The government therefore proposed that the bill should become an act immediately, but that vesting day should be changed from May 1, 1950, to Jan. 1, 1951. It was also proposed that the minister should not appoint any member of the Iron and Steel corporation (to which the securities of the scheduled companies were to be transferred) before Oct. 1, 1950, but that other provisions, dealing with the disposal of iron and steel works and the dissipation of assets prior to the date of transfer, should come into effect immediately the royal assent was obtained. These government amendments were agreed to by the Commons and the future of the industry was left, as had been anticipated, to the decision of the electorate. The bill received the royal assent on Nov. 24.

Meanwhile, interim authority passed wholly into the hands of the Ministry of Supply. The Iron and Steel board came to an end of its own volition.

Outside parliament the steel manufacturers' case against nationalization was repeatedly stated. Sir Ellis Hunter, president of the British Iron and Steel federation, proposed a stronger Iron and Steel board rather than complete state control, arguing that it ought to be possible to develop successful co-operation between the state and private enterprise.

In their policy booklet, *The Right Road for Britain*, published in July, the Conservatives promised to scrap the nationalization plan and to appoint a body, representing the government, management, labour and consumer, to supervise prices and development within the industry.

The production side of the industry appeared to be undisturbed by all this political argument. Looking back on a year in which 14,877,000 tons of crude steel of all qualities had been produced—more than in any previous year—the industry was set new targets for 1949. The economic survey issued by the government stated this aim as " the maximum output the industry can achieve with the material it can obtain," adding that in the most favourable circumstances this should be between 15¼ and 15½ million tons of ingot steel. Similarly, the revised monthly export targets announced by the Board of Trade in March raised the figure for iron and steel from £8½ million a month to £10½ million. In March, steel production reached a new record with an output of steel ingots and castings equivalent to an annual rate of 16,269,000 tons. The industry beat this in May, lifting the annual rate to 16,409,000 tons. The actual output for 1949 was 15,553,000 tons of steel, a total which exceeded the top limit set by the government.

TABLE I.—IRON AND STEEL WEEKLY AVERAGE OUTPUT, 1949, GREAT BRITAIN (Thousand tons)

	Iron Ore	Pig Iron	Ingots and Castings
Jan.	269	178	289
Feb.	267	181	311
March	263	179	313
April	255	179	305
May	263	187	316
June	268	186	301
July	258	177	244
Aug.	248	182	288
Sept.	266	185	306
Oct.	237	184	307
Nov.	249	187	315
Dec.	249	186	291

Imports of iron ore into the United Kingdom rose steadily until August, when they reached 950,800 tons compared with a monthly average in 1948 of 722,900 tons. It seemed probable that the total would be about 500,000 tons more than in 1948. Two million tons of scrap, mainly from Germany, also helped the raw material supply in 1949. It was felt, as in the case of iron ore, that future supplies depended on the possibility of American competition and on German readiness to go on exporting. The British steel industry went ahead with the development of new blast furnaces to reduce their dependence on imported scrap.

Imports of iron and steel were higher than in 1948 and the total held was increased by about 500,000 tons during the year. Devaluation raised the cost of these imports a great deal; the American price became nearly double the home price for a ton of steel and it seemed likely that in future imports would be cut. (*See* Table II.)

TABLE II.—STEEL SUPPLIES AND CONSUMPTION (Million ingot tons)

	1938	1948	1949
Supplies			
Production	10·4	14·9	15·6
Imports	1·0	0·5	1·1
Re-usable material	—	0·5	0·5
Total	11·4	15·9	17·2
Consumption			
Direct exports	2·0	2·1	2·4
Indirect exports	1·2	2·7	3·0
Consumption and defence / Home investment	8·7	10·4	11·3
Total	11·9	15·2	16·7
Change in stocks	−0·5	+0·7	+0·5
Total	11·4	15·9	17·2

After discussions between the industry and the government, the industry's development plan, drawn up in 1946, was revised during the year to increase the productive capacity

in 1953-54 from 16 million ingot tons to 18,500,000 ingot tons a year. This was to be done partly by expanding the capacity of projected schemes but mainly by keeping in operation plants which, because of the greatly increased cost of new plant, could be considered as having a longer economic life than had been anticipated. It was estimated that the revised capacity would be enough normally to produce 17,500,000 ingot tons. Actual work on the plan proceeded during the year and new plant, blast furnaces and ore-unloading and treatment plant were brought into operation.



Low's comment in the "Evening Standard" (London) on the action of the House of Lords in amending the Iron and Steel bill.

An increase in loans undertaken by the Finance Corporation for Industry was due mainly to extra finance for the steel industry, since it was felt that the possibility of nationalization made it impracticable for many companies to raise money for the development plan on the ordinary capital market.

On March 30 the minister of supply announced in the House of Commons that, although the subsidies to meet the excess cost of imported finished steel and the import duties on pig iron and steel would be continued, as from April 1 the remaining subsidies would cease, with an estimated saving to the exchequer for the year 1949-50 of about £25 million. The increase in cost to the industry was reflected in higher prices. This change in price also took into account the results of a review of the price structure on which the Iron and Steel board had been engaged since the autumn of 1947. Even after devaluation, British home trade prices still compared favourably with those of other producing countries and were far below those in the U.S.

Europe. In western Europe as a whole, progress in iron and steel production, considered as part of the Organization for European Economic Co-operation expansion programme, led the Economic Co-operation Administration to issue a statement advising caution. It was suggested that expanding steel industries in western Europe might find themselves in 1953 with an exportable surplus and inadequate markets. The programmes submitted by participating countries called for the production of 57·5 million tons of crude steel in 1953-54, beside a prewar average of 44·5 million tons. E.C.A. suggested that the expansion programme should be extended over a period of ten years rather than four, "so as to permit a more accurate appraisal to be made of potential markets." Crude steel production in the British and American zones of Germany passed a rate of about nine million tons a year in the summer but later fell below that level. Steel benefited from the blockade of Berlin, which had the effect of releasing more fuel to the Ruhr, but internal deflation and limit on exports restricted the market. Steel interests in the zones were more concerned, however, with the dismantling programme. On this issue, American opinion, which had advocated that German steel output should be held down to 5 8 million tons, swung during 1949 from that extreme to the other. Towards the end of November, an agreement touching the dismantling policy was announced between the German federal chancellor and the Allied High commission which meant the immediate cessation of dismantling at a number of steel plants. Existing production prohibitions and restrictions were to remain, however, and steel output remained limited at 11,100,000 tons a year.

The Benelux countries suffered setbacks during 1949 because of their currency position and devaluation, which upset their prices and, owing to their dependency on exports, left them "out on a limb." France seemed to have reached saturation point on her home market but, like Great Britain, was expanding her exports.

Commonwealth. In the Commonwealth, Australian steel production was troubled during 1949 by the coal strike. The country was short of steel and even bought some from Japan. In Canada, production was at a high rate and the main question was whether or not Great Britain could replace the U.S. in meeting the difference between Canada's production and her consumption. South Africa, which produced 660,000 tons in 1948 and about 700,000 tons in 1949, was hoping to lift the figure to 1 million tons when the Vanderbilt park project came into operation. (C. F. Dn.)

United States. Production of iron ore declined somewhat in 1949, the total for the first 10 months being 90,081,583 short tons, compared with 99,761,252 tons in the same period of 1948. The decline in the remaining two months was expected to be even more marked, as the usual winter decline

TABLE III.—WORLD PRODUCTION OF IRON ORE
(In thousands of short tons)

	1944	1945	1946	1947	1948
Algeria	864	1,326	1,842	1,715	2,065
Australia	2,443	1,750	2,100	2,500	?
Austria	3,323	357	520	976	1,320
Brazil	862	789	1,102	1,022	1,589
Canada	553	1,135	1,581	1,919	1,354
Chile	744	1,042	1,491	1,772	2,435
Czechoslovakia	1,746	304	1,230	1,502	1,575
France	20,958	8,502	17,893	20,612	25,363
Germany	?	?	4,564	4,920	7,202
Great Britain	17,328	15,962	13,634	12,413	14,661
India	2,647	2,536	2,697	2,798	?
Italy	730	148	145	249	501
Japan	4,815	1,495	624	550	612
Korea	3,734	?	83	103	?
Luxembourg	3,214	1,550	2,477	2,196	3,749
Morocco, Spanish	762	843	868	958	997
Newfoundland	520	1,103	1,393	1,617	1,644
Poland	750	103	467	600	664
Spain	1,663	1,291	1,760	1,669	1,862
Sweden	7,995	4,332	7,570	9,805	13,295
Tunisia	98	146	202	440	768
United States	105,412	98,982	79,344	104,263	113,124
Total	220,000	176,000	170,000	206,000	232,000

TABLE IV.—WORLD PRODUCTION OF PIG IRON
(In thousands of short tons)

	1944	1945	1946	1947	1948
Australia	1,462	1,257	979	1,268	1,270
Austria	1,021	107	64	307	676
Belgium	792	810	2,382	3,105	4,340
Canada	2,024	1,956	1,521	2,152	2,372
China	2,339	544	1	?	?
Czechoslovakia	1,746	635	1,058	1,569	1,822
France	3,189	1,320	3,852	5,385	7,248
Saar	1,796	?	259	794	1,358
Germany	14,738	1,238	2,297	2,493	6,394
Great Britain	7,545	7,960	8,692	8,457	10,389
India	1,602	1,562	1,485	1,560	1,488
Italy	341	83	226	425	580
Japan	3,080	1,081	240	410	922
Luxembourg	1,486	349	1,504	2,004	2,896
Poland	762	252	800	956	1,249
Sweden	979	866	793	799	831
U.S.S.R.	16,800	18,800	16,750?	18,000?	18,500?
United States	62,897	54,956	46,323	60,141	61,966
Total	119,000	87,000	87,000	109,000	124,000

TABLE V.—WORLD PRODUCTION OF STEEL
(In thousands of short tons)

	1944	1945	1946	1947	1948
Australia	1,706	1,508	1,177	1,376	1,236
Austria	?	189	207	394	714
Belgium	701	813	2,518	3,180	4,318
Canada	2,930	2,803	2,293	2,945	3,202
Czechoslovakia	2,778	1,045	1,843	2,520	2,916
France	3,408	1,822	4,859	6,338	7,984
Saar	1,974	?	321	776	1,346
Germany	20,192	322	2,963	3,290	6,127
Great Britain	13,599	13,243	14,220	14,246	16,662
India	1,468	1,429	1,376	1,349	1,224
Italy	1,138	437	1,270	1,874	2,342
Japan	7,032	1,177	608	1,041	1,889
Luxembourg	1,389	291	1,426	1,888	2,704
Poland	755	546	1,344	1,731	2,070
Sweden	1,320	1,327	1,335	1,311	1,384
U.S.S.R (est.)	15,400	19,800	20,000	22,000	22,200
United States	89,642	79,702	66,603	84,894	88,640
Total	173,000	134,000	128,000	154,000	171,000

was expected to be supplemented by a drop in demand for ore because of a coal shortage.

In 1949 blast furnace output was maintained during the first five months at 10% above the 1948 average rate but sagged from June to September and dropped sharply in the fourth quarter. Output up to the end of November was 48,430,195 short tons of pig iron and 545,433 tons of ferro-alloys, a total of 48,975,628 tons. These figures did not include the output of ferro-alloys in electric furnaces.

The 1948 U.S. steel output was exceeded only in the years 1943-44, and fell short of the war peak by a little more than a million tons. In 1949, production declined sharply in each succeeding quarter but the average monthly output did not fall below that of 1948 until after July. Heavy reductions were recorded in the last quarter, especially in October because of a coal shortage, and the total for the year was 77,868,000 tons. (*See* also METALLURGY.) (G. A. RO.)

ISLAM. The social and political instability characteristic of the world after World War II did not fail to have grave repercussions upon the cultural evolution of Islam in 1949, especially as it was also suffering from its own troubles. Thus the defeat of the Arab League (*q.v.*) in its war against Israel produced a sharp reaction of public opinion in Egypt, Iraq and Syria. The situation of Pakistan was seriously affected by its conflict with India over Kashmir. Soviet political activities created disquietude among Moslem countries. It was only at the end of 1949 that Indonesia came to an agreement with the Netherlands.

Further cultural progress nevertheless was achieved, especially in the sphere of public instruction and of the emancipation of women—the latter especially in Syria, the first country of the middle east to grant the franchise to women. The progress of public instruction was noticeable in Pakistan, where central and provincial authorities opened some 1,500 new schools of all kinds. Urdu, the official language of Pakistan, became the medium of instruction in a degree college. No less interesting were the results of the cultural activity of the Arab League. For instance, it undertook a systematic publication of ancient Arabic manuscripts and the publication of a bulletin dealing with the intellectual life of Arab countries. In Egypt an interesting tendency towards specialization in the rural primary schools deserved attention: from the very beginning the child was initiated in the art of agriculture and rural handicrafts. All Moslem countries, especially Turkey, Egypt and Pakistan, sent more of their students abroad, chiefly to Great Britain and the U.S. The re-establishment in Turkey of theological education in its universities contributed to the intensification of religious life.

On Feb. 18–19, 1949, the 5th International Moslem congress took place at Karachi affirming once more the unity of Islam. On Sept. 11–16 an Islamic Cultural congress assembled at Tunis; unfortunately the restrictive measures taken by the French authorities prevented the Moslems from abroad being present. From Nov. 25 to Dec. 10 the first Economic congress met at Karachi of all Moslem countries and was attended by 300 technical experts, economists and industrialists.

In 1949 an International Islamic committee was founded at Karachi. At the end of the year Chaudhury Khaliquzzaman, president of the All-Pakistan Muslim league, suggested the creation of a confederation of Moslem states under the name of Islamistan, the capital of which should be in Persia. He toured the middle east and in Iraq and Persia met with a warm reception for his views. (A. MJD.)

BIBLIOGRAPHY. H. A. R Gibb, *Mohammedanism* (Oxford, 1949) The author, professor of Arabic at the University of Oxford, gives the following estimates of the number of Moslems Pakistan and India 90 million, Malaya and Indonesia 55, Arab-speaking populations in western Asia 15, Egypt and Sudan 17, north Africa 16, Persia 15, Afghanistan 12, Turkey 18, Asiatic U S S.R. and China 30, Moslem Negroes in Africa 24, Balkans and European U.S S R 3—total 295 million.

ISLE OF MAN: *see* MAN, ISLE OF.

ISRAEL. A Jewish republic in Palestine, with undefined frontiers, was proclaimed on May 14, 1948, at Tel Aviv. According to a partition plan adopted on Nov. 29, 1947, by the general assembly of the United Nations, the state of Israel was to cover 5,579 sq. mi. (with Negev); but this area was reduced to 2,124 sq. mi. (without Negev) by Count Folke Bernadotte, the U.N. mediator, in his plan dated Sept. 16, 1948. After armistices concluded with all the neighbours during 1949 the *de facto* area of Israel was estimated at about 7,800 sq. mi. According to a census of Nov. 8, 1948, this area had a population of 782,000, including 713,000 Jews; one year later the million mark was reached. Chief towns (pop. Dec. 1949 est.): Jaffa-Tel Aviv (*q v.*) (cap., over 300,000); Haifa (150,000). President, Dr. Chaim Weizmann (*q v*); prime minister, David Ben-Gurion (*q.v.*); minister of foreign affairs, Moshe Sharett (*q.v.*).

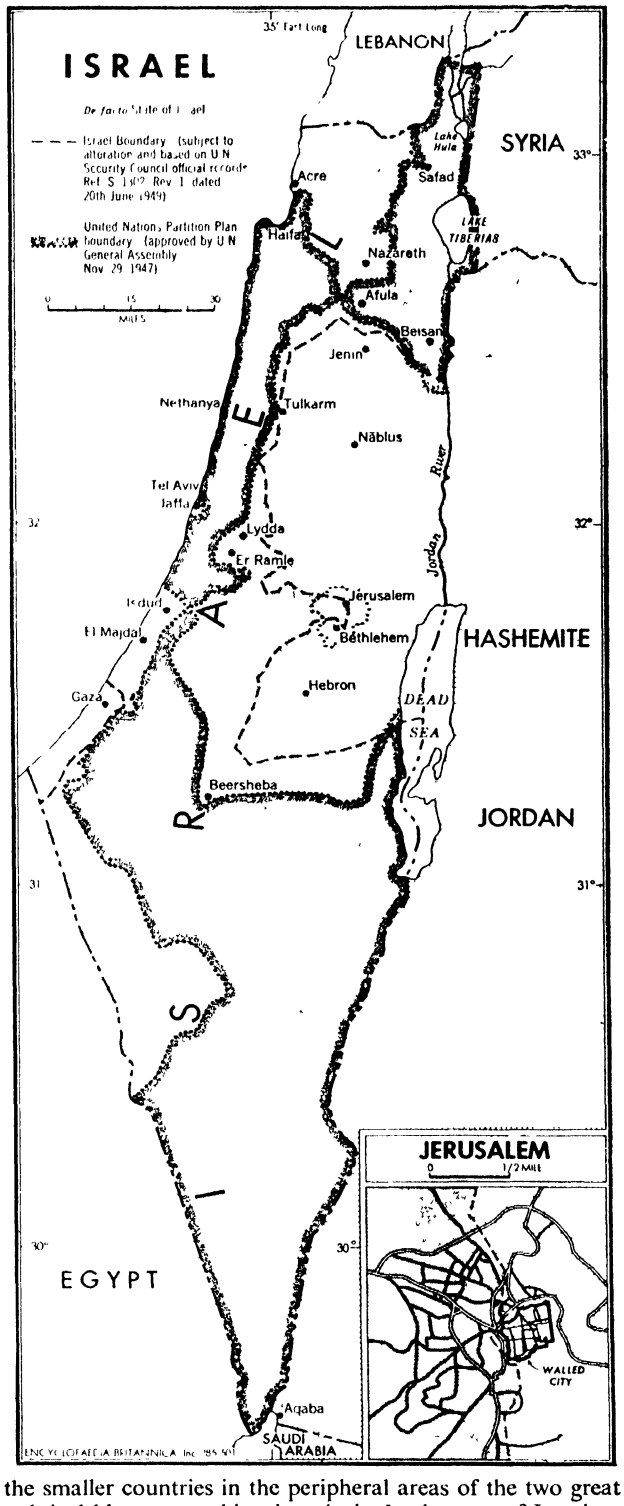
History. This was a year of solid progress for the young state of Israel, whose independence had been proclaimed on May 14, 1948. By the beginning of 1949 the government was in control of practically the whole area over which it claimed jurisdiction with the exception of the Negev, the southern part of the country. Here fighting was taking place along the Egyptian frontier in the Gaza district and Israeli forces were actively consolidating their positions to the south and east. Egyptian opposition was rapidly overcome and by Jan. 13 armistice talks opened at Rhodes, under the auspices of the United Nations' acting mediator, Dr. Ralph Bunche. Relations with Great Britain, on the other hand, which had been strained ever since the outbreak of hostilities with the Arab states suffered a fresh set-back as a result of two events. On Jan. 8, Israeli forces shot down five Royal Air Force fighter planes which were carrying out a reconnaissance over the battle area near Rafah and about the same time it was announced that Great Britain had despatched reinforcements to Aqaba, on the Red sea coast, because of the grave concern felt over the Palestine situation. For a short while the relations between the two countries remained tense. The incident of the aircraft, however, was smoothed over and, in spite of the fact that Great Britain kept a watchful eye on developments at the head of the Gulf of Aqaba and sent a considerable force to the Transjordan coast, the Israeli army was allowed to occupy the coastal strip, known as Elath, to which it considered itself entitled under the terms of the United Nations proposals.

The first general election in Israel, to a Constituent Assembly, was held on Jan. 25. Twelve parties competed for the 120 seats. The total number of voters was 782,000 including 69,000 non-Jews (Moslems and Christians). The result was an outright victory for the Israel Labour party, known as Mapai, which gained 46 seats (*see* ELECTIONS). The government that was formed contained most of the leaders who had previously composed the provisional administration and was a combination of Mapai, the Religious front, Progressives and Sephardim. On Feb. 16, Dr. Chaim Weizmann was elected first president of Israel.

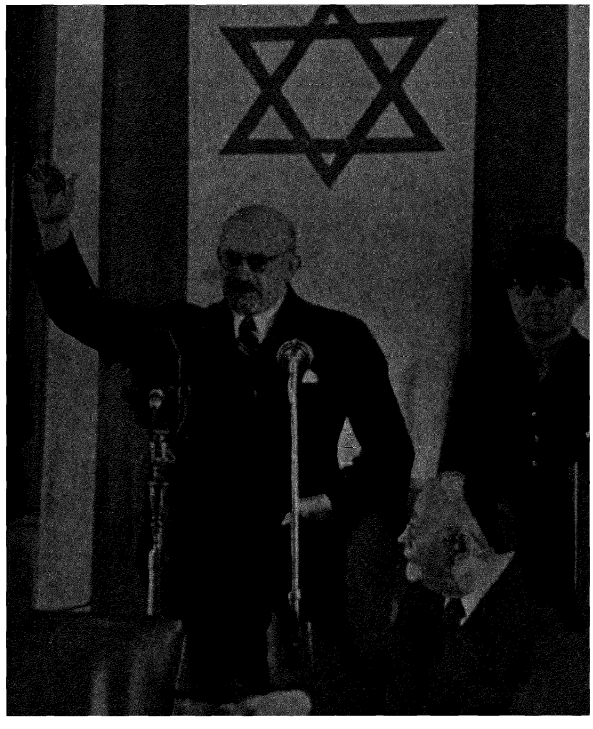
Although it had been proclaimed that the primary task of the Constituent Assembly would be to adopt a constitution, the Knesset (assembly) found itself confronted with so many and such urgent tasks that comparatively little time was devoted to this subject; but an interim or small constitution was adopted immediately before the president was elected. The most pressing task with which the government had to deal was the assimilation of the thousands of immigrants who had arrived in the country. The government had set themselves the objective of doubling the population in four years, which was interpreted by Ben-Gurion, the prime minister, as the admission of 750,000 immigrants during that period. In 1949, 239,171 immigrants arrived in Israel, an average of 18,260 per month.

Economically, the situation had to be faced that the country's natural resources were extremely limited and it was obliged to depend upon imports for a large proportion of its food supplies, nearly all its industrial raw materials and the majority of its manufactured goods. With the oil refineries at Haifa and the potash works on the Dead sea virtually closed down, Israel was left with its orange crop as its sole important visible export. It was not surprising, therefore, that a serious inflationary situation was produced and when the finance minister, Eliezer Kaplan, introduced his budget on June 14 he stressed the importance of bringing down the cost of living, increasing production and restricting imports. Severe measures were taken to attain these objects and an austerity regime, modelled on that in Great Britain, was adopted which had the effect of holding inflation in check. When the pound sterling was devalued in September Israel immediately followed (although it did not technically belong to the sterling area) by reducing its pound from $3 to $2 80. The economy of the country was strongly supported by world Jewry, which, through the activities of various affiliates of the Zionist organization, raised many millions of dollars for the purchase of goods, afforestation and development schemes, educational and cultural activities. In addition, a credit of $100 million was granted by the Export-Import bank in January and commercial agreements were negotiated with many other countries, including Great Britain.

Considering the difficulties which confronted the state at its birth, the progress that was made in the field of foreign affairs was striking. Recognition, either *de jure* or *de facto*, which many countries had been reluctant to grant in the first months following the declaration of independence, became general for practically all the nations of the world with the exception of the Arab and most of the Moslem countries. Great Britain granted *de facto* recognition on Jan. 29. A further success was Israel's admission to the United Nations on May 11, when it obtained 37 votes in the general assembly against 12 with 9 abstentions. Soon afterwards Moshe Sharett, the foreign minister, declared that the basis of Israel's foreign policy was fidelity to the United Nations, independence of either of the two world blocs, a desire for peace and stability and co-operation with the Arab states in the common development of the middle east. The conflicting demands of west and east created problems, both internally and externally, which were similar to those with which all



the smaller countries in the peripheral areas of the two great political blocs were obliged to deal. In the case of Israel its predicament was accentuated by the fact that its major source of economic support lay in the governments and Jewish communities of the west, whereas her principal reservoir of immigration remained in Soviet-controlled Europe. The dilemma was accentuated during the second half of the year by the increasing obstacles that were placed by satellite governments in the way of emigrants wishing to leave eastern Europe, which led to the adoption of the policy



Chaim Weizmann taking the oath as the first president of Israel, Jerusalem, Feb. 17, 1949.

of encouraging Jewish emigration from the middle east and north Africa.

Armistice agreements were concluded with all the neighbouring states and relations with the Arab countries generally improved slightly though they were far from reaching normality. The U.N. Conciliation commission, which was set up in Dec. 1948, made many attempts to convert the armistice agreements into a peace settlement but without success. The main stumbling block in these negotiations was ostensibly the question of the Arab refugees, whom the Arab states demanded that Israel should bring back to their homes and of whom Israel declared that it could not take more than 100,000 and that this concession was subject to the signing of a general peace settlement. In its interim report the U.N. Economic Survey Mission for the Middle East stated that the total number of destitute refugees was 652,000.

A question which had given rise to much discussion during the year and on which the Vatican had expressed strong opinions was that of the future of Jerusalem (*q.v.*) and the holy places. The Conciliation commission proposed a plan which was placed before the autumn session of the U.N. general assembly and envisaged a permanent international regime for Jerusalem, dividing it into Arab and Jewish demilitarized zones, the boundary of which would follow approximately that suggested in the partition resolution of Nov. 29, 1947. It was explained that the plan did not propose a complete separation of the area from the political life and authority of the adjoining states. The scheme was bitterly opposed by the government and people of Israel and also by the kingdom of Jordan, which was equally concerned. Nevertheless, when the matter came up for discussion at the general assembly, an Australian-sponsored resolution, based on this proposal but giving the suggested international authority even greater powers, was carried on Dec. 9 by 38 votes to 14 with 7 abstentions. The means whereby the scheme was to be carried out was left to the Trusteeship council to devise but not before the assembly had voted $8 million for the plan. (D. F. K.)

Education. Jewish education, private and public systems (1946-47): kindergartens 487, pupils 17,318, teachers 755; elementary schools 349, pupils 71,531, teachers 3,372; secondary schools 40, pupils 12,349, teachers 747; training colleges 11, students 1,495, teachers 191; trade schools 31, pupils 3,993, teachers 446; religious schools 70, pupils 5,523, teachers 364; schools for defectives and orphanages 9, pupils 635, teachers 86. Hebrew university pupils (1946-47) 1,027. Non-Jewish education, public system (1948-49): elementary schools 44, pupils 6,677, teachers 146; secondary schools 1, pupils 411, teachers 11.

Agriculture and Fisheries. Main crops (in '000 metric tons, 1947-48): wheat 15·5; barley 9·0; oats 0·6; maize and durra 6·0; hay 32·0; legumes 2·0; melons 7·0; straw 22·0; potatoes 31·0; fresh vegetables 47·5; grapes 9·2; bananas 8·5; (1948) oranges and tangerines 183; grapefruit 36; lemons 9. Livestock (1948): cattle 32,650, sheep 17,995, donkeys 2,290, mules and horses 4,591, laying hens 990,756, chickens 905,141, pullets 442,739, ducks 22,214. Fisheries: total catch (1947-48): weight 2,650 metric tons; value £P1,185,000.

Industry. Electricity (million kwh, 1948) 260. Manufactured goods (in metric tons, June-Dec. 1948): salt 4,980,000; refined oils 3,788; margarine 3,304; soap 2,622; cement 45,326; flour 29,084; beer (in litres) 3,669,748; wine (in litres) 2,441,038.

Foreign Trade. ('000 £I) Imports: (July-Dec. 1948) 23,870; (1949) 98,300. Exports: (July-Dec. 1948) 1,410; (1949) 10,600.

Transport and Communications. Roads (March 1949): 1,922 km. Licensed motor vehicles (Dec. 1948): cars 10.500, commercial vehicles 11,800. Railways (June 1949): 403 km.; passengers carried (1948-49) 382,157; goods traffic (in tons, 1948-49) 209,272. Air transport (1948): passengers flown 36,416; cargo carried 344,386 kg.; air mail carried 72,691 kg. Telephones (1948) 19,312. Wireless licences (1948-49) 106,403.

Finance and Banking. Budget: (1949-50) ordinary revenue and expenditure balanced at £I 40·2 million; extraordinary expenditure for development purposes £I 55 million. Bank notes in circulation (Dec. 1949; in brackets Oct. 1948) £I 50·1 (28·3) million. Monetary unit: *Israeli pound* at par with pound sterling.

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ISTANBUL, as Byzantium, former capital of the Roman empire in the east for more than eleven centuries, and, as Constantinople, former capital of the Ottoman empire until 1922, is still the largest city of modern Turkey. Pop.: (1940 census) 793,949, including about 100,000 Greeks, 53,000 Armenians, 47,000 Jews and 28,000 other non-Moslems; (1945 census) 860,558.

After many years of vigorous service as *vali*, or governor-mayor of the province and city of Istanbul, the election in autumn 1949 of Dr. Lütfi Kirdar as deputy for Manisa confirmed the rumours of his coming departure. He was succeeded as *vali* by Dr. Fahreddin Kerim Gokay, a distinguished nerve specialist, head of the lunatic asylum of Istanbul. On taking over he stated that, while he would continue the building and housing policy of his predecessor, his chief aim was to improve living conditions in the ancient city.

In October an exhibition of Turkish industries was held, which was thronged through the month. It was understood that this would be an annual affair, but without international character.

Two disasters marked the year. In the spring an explosion in the centre of the city destroyed a factory and many buildings, causing grave loss of life. The factory was owned by Nuri Pasha, brother of the famous Enver Pasha. Enquiry revealed that safety regulations had been ignored and that explosives were being manufactured there. The first official action was to order the removal of all dangerous factories outside the city. The second disaster was an explosion and fire on board the "Corum," a Turkish vessel, just before sailing for the Black sea. From burns, suffocation and panic 56 persons were killed and 23 seriously injured.

The new radio station in Istanbul was inaugurated by the president of the republic on Nov. 19. It was a 150-kw. medium-wave station. (MA. BR.)

ITALIAN COLONIAL EMPIRE. Under this heading are grouped the former four Italian provinces of Libya, the former military territory of Libyan Sahara, and the colonies of Eritrea and the Italian Somaliland. The total area of these territories is 918,937 sq. mi., and the total population (1948 est.) 3,262,600. Certain essential information on the constituent parts of the former Italian colonial empire is given in the table.

History. During 1949 the fate of the former Italian colonies remained as an international bone of contention until late in the year. Power politics were pursued in the matter with less hestitation; but in spite of the steady support of Latin America in the United Nations Italy's hope of returning to Africa dwindled. The main reason for this was the increase in the influence and claims of the Arabs as a whole, as also of native African nationalism.

Owing to the failure to arrive at any solution of the problem in Sept. 1948, the whole matter came before the political committee of the United Nations at Lake Success on April 6, 1949. At first the great powers each put forward only a slight modification of their respective proposals of the previous autumn. The U.S.S.R., that is to say, continued to advocate United Nations trusteeship for ten years as a preface to independence, while the French supported Italian trusteeship. On the other hand the British and Americans wished the British to be the trustees in Cyrenaica at least. There was now agreement on one point alone and that was that concessions of some kind must be made to Ethiopia in Eritrea.

At this point Ernest Bevin and Count Carlo Sforza unexpectedly put their heads together and produced fresh proposals according to which the Italians were to take over the trusteeship of Tripolitania in 1951 while the British remained in Cyrenaica and the French in the Fezzan, but the whole of Libya was to become independent at the end of ten years. The Italians were to be the trustees also in Somalia, and Eritrea was to be divided up between Ethiopia and Anglo-Egyptian Sudan. The United Nations looked slightly askance at this *tête-à-tête* method, and the Bevin-Sforza proposals were rejected by one vote in the U.N. general assembly on May 18.

While this rejection was resented in Italy the proposals themselves raised a storm in Libya; the Moslems of Tripolitania declared that they would fight to the death rather than allow the Italians to return and they demanded the unity as well as independence of Libya. This thirst for Libyan unity was not placated by the next British step in Cyrenaica. On June 1 the British chief administrator announced to the national congress at Bengasi that the United Kingdom agreed to the formation of a Cyrenaican government under the Emir Idris el Senussi who was thereupon invited to Britain to discuss further measures to be taken. The Emir arrived in London on July 15 and, after his return home, the Cyrenaican constitution was enacted on Sept. 18 and Cyrenaica became autonomous: in future the country would manage its own internal affairs although its external relationships would remain under British control. A National congress which had met at Tripoli on Aug. 24 to choose a delegation for the autumn U.N. assembly meeting again insisted that Libya should be united as well as independent.

It was the French who were most disconcerted by the rising Arab tide, for Libyan unity would expel them from the Fezzan and Libyan independence would disturb the already uneasy atmosphere in neighbouring Tunisia. When the United Nations met once again at Lake Success in Sept. 1949 the French were, however, left behind, while the other powers competed in a race to catch up with Libyan aspirations. The British and Americans advocated independence for Tripolitania in from three to five years, while the Russians proposed the immediate independence of all the former Italian colonies and the evacuation of Libya by the British within three months. The Italians themselves now backed Libyan unity and supported the independence of Tripolitania where they suggested that there should be elections for a constituent assembly within six months. The Italians also pressed for the unity and independence of Eritrea.

Meanwhile former Italian Somaliland, which the four powers had all but consigned to Italian trusteeship in 1948, was the scene of commotion. The African Somalis, like the Arabs in Libya, were now determined upon unity and independence too; and in Aug. 1949 declarations to this effect were made by the Somali Youth league and other nationalist organizations. This would mean the union of Somalia with French and British Somaliland, a plan which the British had considered at one moment in 1948. While the U.N. political committee was debating at Lake Success a crowd of some 2,000 Somalis assembled in Mogadishu on Oct. 5 and threatened the local Italians. They were dispersed by order of the British military authorities; two rioters were killed and three died of wounds, and a British officer and six Native constables were injured.

On Nov. 12 the U.N. political committee accepted the

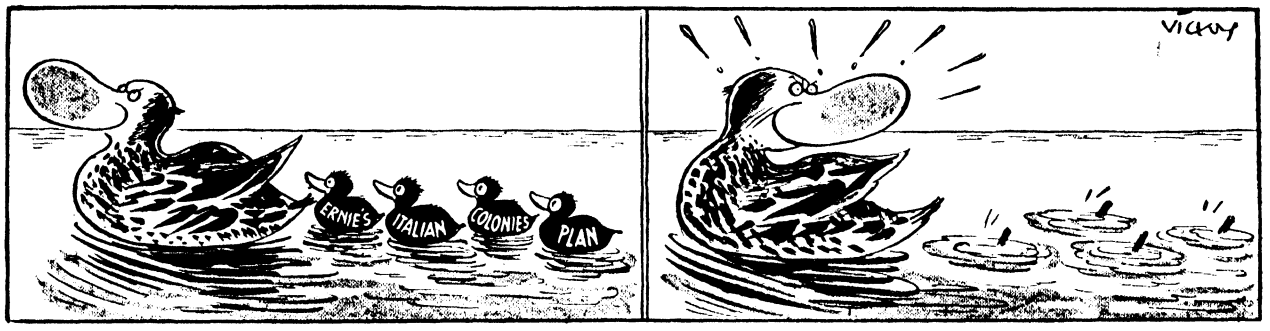
ITALIAN COLONIAL EMPIRE*

Country	*Area* (in sq mi.)	*Population* (1948 est)	*Capital*	*Foreign Trade* (1948, in £)		*Road, Rail and Shipping* (1947)		*Budget* (Actual 1946-47)	
Tripolitania	106,471†	805,960 (including 44,419 Italians)	Tripoli (pop, 1939, 108,240, incl. 39,096 Italians)	Imp Exp.	1,949,390 1,532,913	Roads Railways Ships entered at Tripoli	2,300 mi 94 mi 445,129 N R.T.	Rev. Exp.	£3,731,606 £3,260,848
Cyrenaica	330,259†	309,640 (including 77 Italians)	Bengasi (pop, 1939, 64,641; incl 19,412 Italians)	Imp. Exp.	1,718,835 2,146,184	Roads Railways Ships entered at Bengasi and Tobruk	3,000 mi. 56 mi. 283,000 N R.T.	Rev. Exp.	£1,133,336 £1,469,057
Eritrea	45,754‡	1,087,000 (including 25,491 Italians)	Asmara (pop, 1939, 85,000; incl 50,000 Italians)	Imp Exp	3,017,000 1,869,000	Roads Railways Ships entered at Massawa	780 mi. 192 mi. 550,073 N R.T.	Rev. Exp.	£2,555,904 £2,556,590
Somaliland, Italian	194,000‡	1,010,000 (including 2,600 Italians)	Mogadishu (pop., 1939, 55,000; incl 8,000 Italians)	Imp. Exp.	1,113,400 180,500	Roads Railways	5,300 mi. Nil	Rev. Exp.	£1,260,889 £1,523,068

* The political units listed were in 1949 under British trusteeship pending ultimate decision by the United Nations assembly concerning disposal of the pre-1940 Italian colonial empire.

† In 1934 Libya was divided into four provinces By a decree of Jan 9, 1939, these provinces (213,821 sq mi) were incorporated in the national territory of Italy The territory of Libyan Sahara (465,362 sq. mi) was not affected by this decree Under British military administration Libya was divided into Tripolitania (provinces of Tripoli and Misurata) and Cyrenaica (provinces of Bengasi and Derna, and the eastern part of Libyan Sahara) The western part of Libyan Sahara (Fezzan) was divided between British and French military administrations (223,153 and 19,300 sq. mi respectively; total pop. *c* 50,000)

‡ The areas given here are those before the annexation of Ethiopia by Italy. A decree of June 1, 1936, established the colony of Italian East Africa comprising Ethiopia, Eritrea and Italian Somaliland The greater Eritrea (86,166 sq. mi) included three northern provinces of Ethiopia and the Ethiopian Ogaden was assigned to the greater Somaliland (270,972 sq mi) These new Italian colonies ceased to exist with the liberation of Ethiopia in 1941, but until Aug 1948 Ogaden remained under British military administration.



Vicky's comment in the "News Chronicle" (London) on the plan for the Italian colonies prepared by Ernest Bevin and Count Carlo Sforza after it had been rejected by United Nations general assembly, May 1949.

drafting committee's proposals on all the former Italian colonies and on Nov. 21 the general assembly agreed to them *en bloc*. Thus at last it was settled that:

(1) a unified Libya should become independent by Jan. 1, 1952; in the interim period administration was to be carried on by a U.N. commissioner with an advisory council of the representatives of Egypt, France, Italy, Pakistan, the U.K. and the U.S. and four representatives of the local population.

(2) Somalia or former Italian Somaliland was to come under Italian trusteeship with a three-power advisory council (Colombia, Egypt and the Philippines) for ten years and during that period be prepared for independence.

Only in the case of Eritrea was a decision once more postponed for a year in order that a U.N. commission of enquiry might once again attempt to ascertain the wishes of the Eritrean peoples. (E. WI.)

ITALIAN LITERATURE. Italian writing during 1949 continued prolifically. It also continued to be predominantly neo-realistic or impressionist, searching after truth in the worst of the mêlée. The forms most in use were still the novel and short story. Elio Vittorini published his *Le donne di Messina*, another novel along his accustomed lines but generally felt to be less successful than its predecessors. Two shorter stories together entitled *Prima che il gallo canti* by Cesare Pavese were much admired, though the majority of critics considered the most important novel of the year to have been Vitaliano Brancati's *Il bell'Antonio*. The subject of Brancati's book was the overwhelming success of an extraordinarily beautiful young man among the women of a provincial town in Sicily; the hero is then revealed to be impotent. The whole story takes place towards the end of the fascist period and Brancati did noting to neglect the satirical scope which his subject offered him.

One of the many prizes awarded for literary achievement went to an autobiographical novel called *La memoria* by G. B. Angioletti. Another prize, the Premio Versilia, was awarded in the first place to Ugo Moretti for a novel called *Vento caldo*. Towards the end of the year the ever fertile Alberto Moravia (*q.v.*) brought out his *L'amore conjugale*, a volume of short stories some of which had been published before; meanwhile the translation of his novel, *La bella Romana*, was published in England as *The Woman of Rome*. Giuseppe Raimondi's *Giuseppe in Italia* was a great deal less modernist; indeed it echoed the extreme, almost precious, literary tones of the days of the *Ronda*.

During the year there was a considerable harvest of drama. Massimo Bontempelli brought out a play called *Venezia Salva* based on Otway, but it was felt to be unsatisfactory. On the other hand three well-known novelists published plays which made a great impression: *Yo, el Rey* by Bruno Cicognani; *Lunga notte di Medea* by Corrado Alvaro; and *L'alba dell'ultima sera* by Riccardo Bacchelli. Bacchelli's play was based on the theme of a new Faust-like figure who, however, rejects the evil temptation of atomic knowledge; it was produced at the Venice festival in the autumn but with obvious difficulty; its admirers praised it for its literary and philosophic quality rather than for its success as drama.

The most outstanding poetry of the year was contained in Salvatore Quasimodo's *La vita non è sogno*, though the second Viareggio prize went in part to Libero de Libero for his *Banchetto*.

The first Viareggio prize went to *Stato e chiesa negli ultimi cent'anni* by Arturo Carlo Jemolo, for the particular quality as well as the importance of his book were immediately recognized. The author, a historian of the Left, undoubtedly made an illuminating analysis of a burning question which more than ever coloured the political scene. Gabriele Pepe brought out his *Medioevo barbarico in Europa*, while Benedetto Croce's unfailing productivity was emphasized by the publication of *La letteratura italiana del Settecento* and *Varietà di Storia letteraria e civile*. Another idealist philosopher of some note, Manlio Ciardo, published his *Natura e storia dell'idealismo attuale* while Remo Cantoni, a Marxist existentialist opposed to Jean-Paul Sartre, brought out an essay on Kierkegaard called *La coscienza inquieta*. (E. WI.)

ITALY. A republic of southern Europe, bounded on land by France to the northwest, by Switzerland and Austria to the north and by Yugoslavia to the northeast. The country includes not only the whole of the Apennine peninsula, but also the large Mediterranean islands of Sicily and Sardinia as well as a number of smaller islands. Area: 116,235 sq. mi., excluding Venezia Giulia, Zara and the islands (2,843 sq. mi.) ceded to Yugoslavia, the five small areas in the Alps ceded to France (397 sq. mi.) and the free territory of Trieste (*q.v.*). Pop.: (April 21, 1936 census): 42,993,602; (mid-1948 est.) 46,110,000. Language: mainly Italian, but in Venezia Tridentina there were *c.* 210,000 German-speaking Tyrolese and *c.* 10,000 Romansch-speaking Ladins; in the area east of Udine there were *c.* 11,200 Slovenes, and the population of Val d'Aosta (*c.* 6,600) was French-speaking. Religion: mainly Roman Catholic (99·6%). Chief towns (pop., Jan. 1, 1948 est.): Rome (*q.v.*) (cap., 1,613,660); Milan (1,277,013); Naples (995,257); Turin (719,528); Genoa (657,634); Palermo (470,780); Florence (377,203); Bologna (329,964); Venice (308,677). President, Luigi Einaudi (*q.v.*); prime minister, Alcide De Gasperi (*q.v.*); minister of foreign affairs, Count Carlo Sforza (*q.v.*)

History. During 1949 the predominantly Christian Democratic government led by Alcide De Gasperi continued in office. The smaller groups it contained—Liberals (meaning a small, strongly conservative party), Republicans and moderate Socialists—all being anti-clerical, criticized cabinet policy fairly openly. The moderate Socialists led by Giuseppe Saragat, who was deputy prime minister and minister of the

mercantile marine, were indeed constantly on the verge of resigning. On Oct. 31 they made up their minds to do so, because the other anti-Communist Socialist groups might be readier to try to reunite the Socialist party if the *Saragatiani* were not actually members of a clerical administration. On Nov. 7, De Gasperi deputed their posts temporarily to other ministers, evidently not taking the resignations very seriously. By the end of the year there were still no signs of a real reunion between the Saragat Socialists and the Socialist followers of Giuseppe Romita and of Ignazio Silone, so that the traditional Socialist party remained divided and impotent.

All other regional elections, contrary to earlier intimations, were postponed until 1950, but the first elections to the regional assembly of Sardinia—to which a generous autonomy had long been promised—were held on May 8. The island is poor and backward, and some surprise was created by the fall in the Christian Democratic vote as compared with the general election of April 18, 1948, while the Communist vote was considerable. In fact the Christian Democrats obtained 22 seats in the Sardinian assembly, while the Communists gained 13 and 6 others went to two small groups allied with them. The votes lost by the government party seemed mostly to have gone to the M.S.I. (Movimento Sociale Italiano, the new Fascist party) and even more to the monarchists. The latter still had many followers in the south and in the islands, and ex-King Umberto had encouraged them by sending messages in which he dwelt upon the traditional ties of Sardinia with the house of Savoy.

When the Christian Democratic party conference was held at Venice at the beginning of June one of its favourite topics of discussion proved to be a demand that the government coalition should be replaced by a homogeneous cabinet which, it was claimed, would be able to make a clearer appeal to the public. De Gasperi, however, continued on his way; and in the next few months the position of the government appeared to be consolidated by a number of factors. For instance the cabinet showed considerable activity in the way of putting forward projects for fiscal and tariff reform, for the revision of social legislation and the restriction of the right to strike. The housing plans of the minister of labour, Amintore Fanfani, began slowly to materialize and in the Chamber of Deputies in September he was able to state that L. 20,000 million had been invested in housing for workers and that more was to follow.

The activities of the vigorous Christian Democratic minister of the interior, Mario Scelba, also contributed, perhaps, to the strengthening of the government's position. In a speech at the Communist centre of Siena on April 3, he heralded an anti-Communist police drive, denouncing go-slow tactics and spasmodic strikes as illegal. The Siena speech was followed by others and the police proceeded often to handle strikers so roughly that moderate opinion felt some uneasiness.

Communism and Trade Unions. In the course of the summer irritation and fatigue due to Communist agitation, combined with fear of the police and fear of unemployment, reduced Communist influence very considerably in the industrial north of Italy. On July 13 the Papal threat of excommunication against Communism made a further contribution to this tendency (*see* ROMAN CATHOLIC CHURCH). The disruption of the Communist-dominated C.G.I.L. (Confederazione Generale Italiana del Lavaro or General Confederation of Labour), which had begun with the establishment of the "free" or Catholic L.C.G.I.L. (Libera Confederazione Generale Italiana dei Lavoratori) in Sept. 1948, continued; and in June 1949 the Republican and anti-Communist Socialist labour groups also broke away to form the Italian Federation of Labour (F.I.L.). There was a fairly general and justified fear that jobs, whether offered by the government or by private employers, would not be given to those who remained in the C.G.I.L. Thus, while at the end of 1948 the local C.G.I.L. organization in the province of Turin had counted 296,000 members, by Sept. 1, 1949, the number had fallen to 252,000; in the province of Milan the fall in



The name of the Communist newspaper "Unità" spelt out by girls during a large scale circulation drive in Florence for the newspaper in Sept. 1949.

membership was relatively greater. At the national conference of the C.G.I.L. at Genoa early in October its secretary general, Giuseppe Di Vittorio, admitted losses in the north, and since June 1947 the loss of about 800,000 members altogether, but at the same time he claimed that the C.G.I.L. had gained sufficient ground in other parts of the country to keep its membership figure up to five million. When the L.C.G.I.L. congress was held in Rome early in Nov. 1949, its secretary general, Giulio Pastore, claimed a membership already reaching 1,300,000.

Peasant Movement. While Communist influence was weakening particularly among the highly skilled workmen of the northern industrial triangle, it remained fairly steady in central Italy, where many peasants were prosperous and agricultural industries flourished; at the same time it continued to grow in the very poor districts of southern Italy which had never been industrialized and where it was scarcely known before 1948. The problem of the extreme south had lain dormant for many years, but by 1949 it had become critically acute and of this the Communist party was not slow to take advantage. The increase of the population was greatest in the south where the difficulty of emigration was thus particularly felt. The peasants became aware of the huge private estates which in the south were treated by their owners with neglect; this meant that there was neither work, land nor food for the great mass of would-be agricultural labourers who were forced to live in misery crowded together in poor towns. No real change in land-tenure had been made since mediaeval times and the cry for agrarian reform rose from all parts of Italy; but it was in the south that reform was desperately needed, especially in Calabria where the effects of deforestation and soil erosion were more catastrophic than elsewhere.

On Easter Sunday (April 17), after many vague promises, De Gasperi gave an interview to the press in which he outlined a specific plan for land reform. The plan proposed that nearly 8,000 owners of big landed properties should be compelled to sell portions of their land varying from a fifth to a half. Only the most profitable land, not the largest most neglected estates, was, it seemed, to be affected. The land liberated in this way was to form a land pool out of which small peasants and labourers were to be supplied. All more technical details were to be worked out later. This project was not well received, and the months dragged on and nothing further developed. Meanwhile the labourers who, even in the north and centre, were badly paid and could seldom get employment all the year round, became understandably impatient and there was a serious agricultural strike for some weeks which was settled towards the end of June. The long drought, followed by floods and devastation in the autumn, brought great suffering, especially in the south, and at the end of October there were clashes near Crotone in Calabria between the police and unarmed peasants who had squatted on the land. (In 1944 a decree had permitted squatting in neglected land although more recently squatters had frequently been punished.) Public opinion reacted strongly in favour of the peasants, and on Nov. 20–21 De Gasperi toured Calabria where no Italian prime minister had ever been. The peasants' co-operatives were promised some of the land they claimed and money for improvements was guaranteed. Similar disturbances took place in Sicily (where the situation was complicated by the apparently invincible brigand, Salvatore Giuliano) and in November in the San Severo wine-growing district of Apulia. Experts felt afraid of the piecemeal offers of land made by the government when, as they believed, an all-over solution of the problem was required.

Improved Economic Position. While agrarian unemployment was increasing there was some improvement with regard to industrial unemployment in the summer of 1949. Though in a country crammed with unregistered workers, small sweated industries and casual seasonal employment statistics could easily mislead, it was worth while to record that at the end of July 1949 there were nearly 470,000 less registered unemployed than at the end of July 1948, while about 200,000 more people had come on to the labour market as the population grew; there were, into the bargain, some 100,000 Italians whose contracts in Switzerland had been ended. Towards the end of the summer the Doxa institute (a public opinion survey organization) asserted that 42% of all Italian families had an average income of L. 22,000 a week or $9 65. Internal prices continued fairly stable during 1949 and in September, thanks in part to the excellent grain harvest, it was possible to announce an average 10% reduction in the price of bread from the middle of October.

The financial policy of the government continued to be very cautious though in the spring a little more play was allowed by a reduction of the official rate of discount from 5½ to 4½%. Exports reached their highest postwar level during the first six months of 1949 and the adverse balance of trade was at times eliminated. After June things became more difficult owing partly to the contraction of the world market. The problem of the constantly increasing sterling balance in Italy, which had reached the figure of £70 million by September, was sharpened by sterling devaluation which practically spelt a partial British default. But the Italian government had been fortunate in the acquisition of a considerable quantity of gold in the U.S. before Sept. 18 and this, of course, rose in value. The lira was left to find its own value against the dollar and steadied at a rate which implied a devaluation of not quite 10%. The government congratulated the country and itself upon the steady confidence shown which was undoubtedly an achievement to emphasize within two-and-a-half years of the financial crisis of the spring of 1947. The outlook for exports had, however, darkened very seriously by the end of the year. A basic reason for this was the excessive cost of industrial manpower; and this was due, as much as to anything, to the short-sightedness of the Italian industrialists who had spent their postwar profits heedlessly, making no attempt to replace worn-out plant or to expand their industrial potentialities.

Insofar as Italy's storms were weathered in 1949 the chief factor undoubtedly was the supply of Marshall aid, and the news that the 1949-50 allocation was to reach only $407 million was unwillingly received. It should be added that the steady reconstruction of Italy's mercantile marine with the consequent reduction of the charges for freight had made a far from negligible contribution to the country's economic health. A seamen's strike at Genoa, Naples and Venice (and also at Trieste) in September caused some dislocation but no irreparable harm.

One promising event for Italy's economic future, though its effects were scarcely felt by the end of 1949, was the discovery in June of oil at a small Emilian town called Cortemaggiore just south of the Po. More immediately important, because upon a larger scale, was the organization of the natural gas around Ferrara and at Lodi near Milan. It was impossible to guess how far these new fuel supplies would be able to replace Italy's coal imports in the future, but that it should become less dependent upon foreign coal was in itself an epoch-making event.

Foreign Policy. There was no change in Italian foreign policy in 1949. The foreign minister, Count Sforza, had been associated in his youth with attempts to improve relations with the Yugoslavs and he followed up Tito's difficulties with Moscow by friendly expressions and the extension of commercial relations with Yugoslavia. In August he led the Italian delegation to the Council of Europe at Strasbourg while a good deal of sympathy was felt in Italy for drawing closer

its ties with the other countries of western Europe. A considerable section of the Italian press continued, especially after the abortive Bevin-Sforza proposals and until after the Mogadishu incident in October (*see* ITALIAN COLONIAL EMPIRE), to attack Great Britain as the obstacle in Italy's colonial path. It also criticized British behaviour in the matter of European co-operation, particularly after the devaluation of sterling. Economically Italy continued to lean heavily upon the United States. The Franco-Italian customs union did not bear much fruit because the two countries produced so much the same; but more hope was entertained of a wider union to include Benelux, a union which came to be referred as "Finebel." Although the Soviet veto still excluded Italy from the U.N. it was included in western European strategic planning. But most of all during 1949 her cultural links with the rest of the world were developed afresh, to some extent culminating in the P.E.N. club meeting and the Giovanni Bellini exhibition in Venice in the autumn. Events of this kind helped to bring Italy's tourist traffic in 1949 back to the scale of 1938. (E. WI.)

Education. (1946-47) Elementary schools 37,131, pupils 4,703,228, teachers 144,815, secondary schools 5,799, pupils 894,037, teachers 82,673; technical schools 957, pupils 134,969, teachers 13,721; universities and institutions of higher education 27, students 180,134, professors and lecturers 8,625. Illiteracy (1931) 21·6%

Agriculture and Fisheries. Main crops (in '000 metric tons, 1948; 1949 estimates in brackets): wheat 6,136 (6,620), maize 2,254, barley 230 (226); oats 483 (395); rye 122 (124), rice 619; potatoes 3,014, sugar, raw, 397, hemp 76·8. Livestock (in '000 head, 1948). cattle 7,923; sheep 9,434, pigs 3,757; horses 720; poultry 65,000 Fisheries. total catch (1948) 113,476 metric tons.

Industry. Fuel and power (in '000 metric tons, 1948; 1949, six months, in brackets)· coal 972 (579), lignite 907 (400), natural gas (in million cu m) 117 (90), manufactured gas (in million cu m) 1,524 (791); electricity (in million kwh) 22,692 (8,606); crude oil (in '000 metric tons) 9 2 (4·4). Raw materials (in '000 metric tons 1948; 1949, six months, in brackets)· iron ore, metal content 543 (257), pig iron 526 (204), steel ingots and castings 2,124 (1,001), lead 26 8 (13·1), zinc 26 4 (12 4)

Foreign Trade. (Million lire) imports, (1948) 847,200, (1949, six months) 475,400, exports, (1948) 570,000, (1949, six months) 312,500

Transport and Communications. Roads (1948) 105,800 mi Licensed motor vehicles (Dec 1948) cars 206,773, commercial vehicles 211,636. Railways (1948): 13,000 mi, passenger-mi 13,260 million; freight carried 37 million tons. Shipping (July 1948) number of merchant vessels of 100 tons and upwards 852, total tonnage 2,109,067. Air transport (1948) mi. flown 5,348,600, passengers flown 190,640; cargo carried 1,568,000 tons; air mail carried 189,000 tons. Telephones (1947-48). subscribers 751,900.

Finance and Banking. (Million lire) budget (1948-49) revenue 800,752, expenditure 1,251,756; (1949-50) revenue 1,222,783, expenditure 1,396,915 National internal debt (March 1949, in brackets March 1948) 2,014,573 (1,597,344) Currency circulation (Aug. 1949, in brackets Aug 1948) 882,700 (791,900) Gold reserve (Aug. 1949, in brackets, Aug 1948) 134 (58) million U S dollars. Bank deposits (March 1949; in brackets March 1948) 1,099,000 (812,000). Monetary unit *lira* with an exchange rate (Dec. 1949, in brackets Dec 1948) of 1,755 (2,317) lire to the pound

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IVORY COAST: *see* FRENCH UNION.

JAFFA-TEL AVIV. Capital and largest city of Israel. Pop. (1949 est.): 300,000. The town consists of two distinct parts: the old city of Joppa which was renamed Jaffa (pop. in 1939, 77,400 [52,700 Moslems, 24,700 Jews] and in 1946, 101,580) and Tel Aviv, an all-Jewish city founded in 1909 (pop. [1939] 130,300, [1946] 183,200). Tel Aviv became the capital on May 14, 1948, when Israel was founded. On Dec. 26, 1949, the Knesset (parliament) was moved from Tel Aviv to Jerusalem although the seat of the government remained in Tel Aviv.

On Oct. 5, 1949, the Israeli government officially announced the merging of Jaffa and Tel Aviv. The new city was known as Jaffa-Tel Aviv and its combined population of 300,000 made it one of the largest cities in the middle east. The new town which has 4,000 Arabs would have a central council for the purposes of administration. Israel Rokach, mayor of Tel Aviv, who was attending the International Conference of Mayors in Switzerland at the time of the announcement, expressed surprise at the decision being taken by the government without consulting the local councils. The Red Cross maintained monthly distribution of foodstuffs to the Arab population; but during the summer the Arab Emergency committee ceased to function owing to lack of funds and because of grievances against the Israeli authorities. The committee was not considered representative of the Arab community.

Work began on the building of a new road at a cost of £1600,000. This was the first road in Israel to be seven metres wide. In September a new railway terminal was opened when the first passenger train arrived from Haifa. The large influx of new inhabitants to Tel Aviv caused a considerable strain on the already overcrowded houses and flats. A town planning exhibition held in Tel Aviv in November revealed that to house each newcomer upon arrival it would be necessary to complete one flat every eight minutes. For the municipal elections, due to be held early in 1950, there were 135,000 persons on the voting register. (X.)

JAMAICA. British colony consisting of the largest of the British West Indian islands. Area: 4,411 sq. mi. Pop. (1948 est.): 1,362,000, mainly of African descent. Dependencies: Cayman islands and Turks and Caicos islands. Governor, Sir John Huggins.

History. The constitution, introduced in Nov. 1944, for a five-year trial period, became due for review. The House of Representatives agreed on these proposals: the Executive Council should consist of one official, two nominated and eight elected members; the Legislative Council should not be permitted to hold up legislation for more than six months; and a candidate for the House of Representatives should be able to stand for any constituency in the island. The last proposal was immediately accepted and brought into force; the others remained subject to consideration. A general election was held on Dec. 20. The Labour party led by W. A. Bustamante secured 17 seats and the People's National party led by Norman Manley, 13 seats.

In February the government passed the Pioneer Industries (Encouragement) law, granting substantial concessions in regard to exemption from income tax, tonnage tax and customs duty in connection with the establishment of new industries. There was a spate of industrial and other economic development. The shares of a £1·2 million Caribbean Cement company were issued; construction of the factory was due to start at an early date and production was scheduled to commence by the beginning of 1951. The West Indian Sugar company's new factory at Monymusk, one of the largest in the British Commonwealth, began operations in April. Plans for an industrial estate in western Kingston were well under way. Jamaica Welfare, Ltd., which, since its foundation in 1937, had done much valuable welfare work, was wound up and handed over to a new Social Welfare commission with a civil servant as chairman.

Finance and Trade. Currency, pound sterling Budget (1949-50 est.): revenue £10,314,313; expenditure £10,307,275 Foreign trade (1948): imports £19,680,859; exports £11,387,350. Principal exports: sugar, bananas, rum, cigar tobacco and cocoa. The 1949 sugar crop totalled 237,749 tons, or approximately three times the average prewar crop, The rapidly developing tourist trade contributed largely to invisible exports, and Tower Isle, the latest luxury hotel, opened in January. (J. A. HU.)



The Japanese cabinet which took office in Feb. 1949. Shigeru Yoshida, third from left, held the posts of prime minister and minister for foreign affairs. On his left is Joji Hayashi, deputy prime minister and minister for public welfare.

JAPAN. An island nation in the western Pacific, under Allied military occupation following its defeat and surrender in 1945. In accordance with the Cairo and Potsdam declaration, Japan was stripped of its former overseas possessions and reduced to the following four main islands:

Honshu (with 382 adjacent small islands)	88,919 sq.mi.
Shikoku (with 167 islands)	7,248 ,,
Kyushu (with 373 small islands)	16,247 ,,
Hokkaido (with 68 small islands)	34,276 ,,
Total	146,690 sq.mi.

According to Oct. 1, 1940, census the population of Japan proper was 73,114,308. On June 30, 1948, the total population was estimated at 80,170,815, a gain of 7,761,804 since Oct. 1, 1945. Net repatriation to Japan contributed 5,934,928 of the increase; natural growth the remainder. On Sept. 1, 1949, the population was estimated at 82,466,181. Chief towns (first figure, Oct. 1, 1940, census; second figure, 1946 est.): Tokyo (cap., 6,778,804; 3,442,106); Osaka (3,252,340; 1,293,501); Nagoya (1,328,084; 719,382); Kyoto (1,089,726; 914,655); Yokohama (968,091; 706,557); Kobe (967,234; 443,844); Hiroshima (343,968; 77,000). Language: Japanese. Religions: Buddhist, Shintoist and Christian (in 1933 there were 191,000 Roman Catholics and 249,000 members of other denominations).

Supreme commander for the Allied powers: General Douglas MacArthur (*q.v.*). Allied council for Japan (an advisory body in Tokyo): William J. Sebald (U.S.), deputy for the supreme commander, chairman; General Chu Shih-ming (China); Lieutenant General William R. Hodgson (who late in 1949 succeeded Patrick Shaw as representing jointly the U.K., Australia and New Zealand); Lieutenant General Kuzma N. Derevyanko (U.S.S.R.). The policy-making body is the Far Eastern commission sitting in Washington under the chairmanship of Maxwell M. Hamilton who on Dec. 8, 1949, succeeded General Frank R. McCoy (U.S.), and comprising the representatives of Australia, Canada, China, France, India, Netherlands, New Zealand, Philippines, United Kingdom and the U.S.S.R. On Nov. 17, 1949, Burma and Pakistan were added to the 11 members of the commission. Emperor, Hirohito (*q.v.*); prime minister and minister of foreign affairs, Shigeru Yoshida (*q.v.*).

History. Inter-Allied negotiations looking to the conclusion of a peace treaty remained deadlocked over questions of procedure. The United States, with the support of several other powers, proposed that all members of the Far Eastern commission participate in the settlement. The Soviet Union insisted on a preliminary negotiation of major issues by the United States, the Soviet Union, the United Kingdom and China. Meanwhile U.S. policies in Japan were denounced as anti-democratic and imperialistic by Soviet representatives on the Far Eastern commission (Alexander S. Panyushkin) and the Allied council. They were defended by the U.S. government as fully consistent with basic occupation objectives of disarmament and democratic reform. The Soviet Union was accused in turn with failure to live up to its Potsdam pledge to repatriate all Japanese prisoners of war. Some 95,000 were reported shipped back to Japan in 1949. In May the Russians had stated that this number would complete their repatriation programme; but Japanese records showed 377,000 still unaccounted for in Soviet areas. The United States pressed for an impartial investigation. Lieut. General Derevyanko, Soviet representative on the Allied council in Tokyo, walked out of the meeting of Dec. 21 when the question was placed on the agenda.

The United States retained the preponderant position in administering occupation policies within the framework of the Far Eastern commission's basic post-surrender policy for Japan. Except for a token British Commonwealth force, the occupation troops remained wholly American, comprising four infantry divisions plus the far east air force. Civilian relief supplies furnished by the U.S. armed forces to Japan

(including Okinawa) totalled $410 million in the year ending June 30, 1949. They had amounted to $1,265 million in the four years since V-J day.

A move to grant the Japanese greater autonomy in managing their own affairs was made in August when General MacArthur announced the reduction of military government supervision of civilian affairs at the prefectorial and local level. In the economic realm, however, the year was marked by tightened pressure on the Japanese government to retrench its finances and revive production and exports. A Washington directive of Dec. 1948 called on the supreme commander to "direct the Japanese government to carry out an effective economic stabilization programme." Subsequently, detailed proposals for balancing the budget, reforming the tax structure and stabilizing prices and wages were put forward by the U.S authorities The latter also made clear their opposition to labour strikes disrupting key industries.

The emphasis in occupation policy thus shifted towards economic recovery and away from the punitive and reform measures of earlier years In May the United States unilaterally halted interim reparations deliveries of industrial equipment to China and other Pacific nations. As the Far Eastern commission was still unable to agree on a final reparations programme and the United States was increasingly concerned to conserve Japanese assets for recovery, the prospect of any further deliveries seemed remote. In August it was announced that the programme to break up excessive concentrations of economic power in Japan was virtually completed This suggested that the original aims had been scaled down considerably The agrarian reform meanwhile moved into its final stage Over 5 million ac of farm land had been purchased from former owners and resold to small farmers, while rent ceilings and written contracts had been instituted on the 10% of Japan's cultivated area still farmed by tenants

Domestic Affairs The Democratic Liberal party, headed by Shigeru Yoshida, won a sweeping victory in the national Diet elections of Jan. 23 Campaigning on a platform of "free enterprise" and anti-Communism, Japan's right-wing party gained a working majority of 264 out of 466 seats in the House of Representatives. Premier Yoshida thus continued in office through the year. The centre parties, the Democrats and Social Democrats, suffered heavily from the corruption and internecine strife revealed in their earlier coalition governments. In the 1949 elections they dropped to 68 and 49 seats respectively. Symptomatic of the polarization taking place in Japanese politics, the Communists showed a marked accession of strength, increasing their seats from four to 35. (*See* ELECTIONS)

Despite the general swing to the right, and the lesser drift from the centre to the left, no stable pattern of political parties had yet emerged in postwar Japan. Premier Yoshida, spokesman of the old-line bureaucracy and large business interests, continued his efforts to draw the Democratic party into a merger which would create a Conservative bloc of preponderant strength. On the left also there were manoeuvres to form some more stable coalition. The Communist party campaigned vigorously against the policies of the Yoshida government, especially in the labour field. They also attracted support by their overtly Nationalist and anti-occupation propaganda. Towards the close of the year, however, it appeared that they had lost ground in their stronghold, the trade unions. Anti-Communist "Democratization leagues" had drawn large numbers of workers away from Communist leadership and the latter's attempt to stage a strong labour offensive against the government proved ineffectual. Communist influence among Japan's 2·5 million employees in government offices and enterprises was also weakened by the purging of many party members and sympathisers in the course of the government's campaign to dismiss surplus employees from its payrolls. The strongest organized force in Japanese politics continued to be the conservative bureaucracy, allied at various points with business interests and commanding strong support in rural regions. Only the presence of Allied authority prevented a sharper and perhaps more violent clash between the right and left.

National politics in Japan continued to be dominated by the issues of economic stabilization and reconstruction. Under insistent pressure from Allied headquarters, the Diet approved Japan's first balanced budget since 1930 A series of Allied directives brought a sharp reduction in government subsidies, the suspension of deficit loans from the Reconstruction Finance bank, large scale dismissals of public employees, slashes in public investment, the relaxation of commodity controls and far reaching plans for tax reform. On April 25 the yen was officially pegged at 360 to the U.S dollar, as a further step in the return to normal trading. Agricultural harvests were good; and industrial output increased 46% from January to October.

Late in the year the authorities announced that monetary stabilization had been achieved. Symptomatic was the marked decline in the black market and the stability of prices and wages through 1949 It appeared that the problems of inflation might be superseded by deflationary pressures. Business men complained increasingly that the austerity programme had brought about a crippling shortage of funds and mounting stockpiles This was accentuated by the lag in making available counterpart funds—the yen proceeds of U.S. relief funds to finance industrial expansion. Labour unrest was widespread, especially over the dismissal of some 200,000 public employees and the government's policy of no wage increases. The Japanese economy, moreover, still continued to be heavily dependent upon American aid. Exports failed by a wide margin to cover import requirements of food and raw materials, even though living standards remained far below prewar levels. The "balanced economy" projected for 1953 by the Economic Rehabilitation Planning commission called for exports of $1,500 million to support a standard of living 10% below that of 1930-34. This was three times the actual level of exports in the year ended June 1949.

Education During the occupation the school system was purged of those teachers who were charged with being nationalistic and militaristic, and all school books containing such material were scrapped. With 660,000 teachers working in 1948, from elementary schools to the universities, there was a shortage of about 110,000 About 19 million pupils were enrolled in about 50,000 elementary, secondary and technical schools There were also 6 imperial universities and 39 other institutions of higher education with teaching staffs of about 4,000 and 51,000 students

Food and Agriculture. Some improvement in Japan's food position was achieved in 1949 The index of agricultural production (1934-38 = 100) was 83 in 1947-48 and 95 in 1948-49. For the fourth postwar year, however, Japan was unable to provide sufficient food from her own resources for its now expanded population, or to assure equitable distribution to the cities Food imports totalled 2,489,000 metric tons in the year ending June 1949 and were expected to equal if not exceed this figure in the fiscal year 1949-50 Production of rice and rice substitutes was as follows in the calendar years 1948 and 1949:

TABLE I—AGRICULTURAL PRODUCTION ('000 metric tons)

	1934-38	1947	1948	1949
Rice	11,501	11,298	11,632	11,474
Wheat	1,287	767	1,042	1,064
Barley	1,556	1,157	1,569	1,661
Potatoes	1,622	1,936	2,146	2,091
Sweet potatoes and yams	3,060	4,415	6,066	—
Sugar beet	303	124	66	176
Tea	49 3	24 9	26 0	—

High food prices remained a major problem for urban workers, who were still forced to devote 60% of their total family expenditure to food. By the end of the year, average national consumption was put at about 2,000 calories per person daily But the official ration supplied only 1,348 calories, and the remainder had to be purchased in the open market at two to three times the official prices. With heavy food imports still financed by U S. funds, Allied headquarters turned down the request of the Japanese government to raise the basic rice ration above 2·7 *go* (0 88 dry pints).

Manufacturing and Mining. Industrial activity in Japan rose steadily from Nov. 1946 to March 1949. Thereafter it showed a tendency to level off, reflecting deflationary pressures in domestic and export markets. By Sept. 1949 the index of industrial output stood at 53% of the 1937 level, a rise of 40% from the 1948 average. Based on 1932-36 as 100, the September indices were as follows: general industrial activity 93·2; utilities 164·1; mining 106·2; manufacturing 75·3; machinery 111·7, metals 87·6; chemicals 77·4; textiles 25·5. Employment in Japanese industry, transport and the distributive trades was estimated in Aug. 1949 to be about the same as Oct. 1947. Manufacturing employment was down 22%, however, and real wages were hardly more than 50% of prewar levels. This situation bred continuing discontent and unrest among Japanese workers, some 6·7 million of whom were now organized in trade unions.

Production of basic commodities was as follows (monthly average):

TABLE II.—INDUSTRIAL PRODUCTION

Monthly Average	1947	1948	1949 (Jan.–Oct.)
Coal ('000 metric tons)	2,270	2,810	3,148
Crude petroleum (metric tons)	15,500	13,600	16,200
Gas ('000 cu. metres)	49,000	68,500	74,860
Electricity (million kwh.)	2,461	2,802	2,964
Pig iron ('000 metric tons)	31	70	127
Steel ingots and castings ('000 met. tons)	78	143	246
Refined copper (metric tons)	3,070	4,530	6,126
Cement ('000 metric tons)	103	154	259
Motor vehicles (units)	930	1,670	2,365
Cotton yarn (metric tons)	10,200	10,200	12,710
Rayon staple fibre (metric tons)	730	1,330	2,038
Woven cotton fabrics ('000 sq. metres)	46,200	64,400	67,030
Wheat flour ('000 metric tons)	66	84	153
Raw silk (bales of 132 lb.)	9,295	11 248	13,524*

* Jan.–Sept.

Foreign Trade. Japanese foreign trade was again characterized in 1949 by a heavy import deficit, financed by U.S. appropriated funds. Plans for 1949-50 called for exports of $520 million as against imports of $820 million. Actual exports increased substantially during 1949, but failed by a wide margin to cover import requirements of food, cotton and other materials. The figures were as follows (million U.S. dollars):

TABLE III.—FOREIGN TRADE

	1947	1948	Jan.-Oct. 1949
Imports (c.i.f.)	526 1	682 6	780·2
Exports (f.o.b.)	173·6	258·3	433·2

The United States provided 65% of Japan's 1948 imports, of which grain and flour comprised 23%, sugar 12%, raw cotton and wool 17% and fertilizers 6%. Exports went mainly to sterling and other non-dollar areas, the U S. taking only 25%. Cotton manufactures accounted for 38% of 1948 exports, raw silk 9%, and other textiles 12%. In terms of quantity, imports were only 40% of the 1930-34 level, and exports 16%. The revival of private trade and the replacement of multiple exchange rates by a single official rate (360 yen to the U.S. dollar on permissible transactions), brought a gradual readjustment of Japan's cost-price structure to the world economy.

Trade agreements were signed with a number of countries, including a £143 million agreement signed with the sterling area in November. However, the austerity programme created a shortage of working capital in Japanese industry; and exporters likewise felt the pressure of sagging world prices and the devaluation of sterling and other currencies. At the end of the year, as export contracts lagged, unsold stocks of export goods were reported to have reached 80,000 million yen. Officials and business men displayed keen interest in the resumption of trade relations with China, Japan's once important market.

Transport. Railway traffic in Japan was as follows in 1948 (monthly average): passenger-km. 6,590 million; freight ton-km. 2,109 million; freight tons 9,638,000. Corresponding monthly averages for Jan.-July 1949 were 5,841 million, 2,200 million and 9,626,000 respectively. Japan's merchant fleet remained far below prewar standards. In Oct. 1949 it had only 1,654,178 gross tons of steel vessels of 100 gross tons or over. Only 66 vessels of 405,000 tons could be used in overseas trade.

Finance. As noted above, postwar inflation in Japan was finally arrested in 1949, under the stringent policies of retrenchment prescribed by Allied headquarters in pursuance of the stabilization directive of Dec. 1948. National government expenditures (general account) were budgeted for 1949-50 at 704,600 million yen This was 231,500 million yen above the previous year, and came to 26·7% of estimated national income. The principal items were 202,200 million yen for price adjustment (subsidies) and 129,600 million for war termination expense (chiefly occupation costs) Revenues were budgeted at 704,900 million yen, of which 514,600 million was to come from taxes and stamp revenues and 121,000 million from government monopoly profits. The Bank of Japan's outstanding note issue declined from 355,300 million yen at the end of 1948 to 298,200 million on Sept. 30, 1949. Meanwhile the bank's holdings of government debt (including Reconstruction Finance bank bonds) dropped from 332,500 million to 237,400 million yen. Total sight and time deposits of all other banks rose from 463,700 million yen on Dec. 31, 1948, to 600,700 million on Aug. 31, 1949. On the latter date the national debt was 518,400 million yen. The gradual tapering off of price inflation is shown in the following indices (1937=100).

TABLE IV.—WAGES AND PRICES

	Wholesale prices	*Cost of living in 28 cities*	*Daily earnings of males in manufacturing*
1947	3,720	4,470	3,230
1948	9,850	8,643	8,842
1949 Jan.	14,700	11,100	15,600
1949 Aug.	16,200	12,000	16,200

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(W. W. L.)

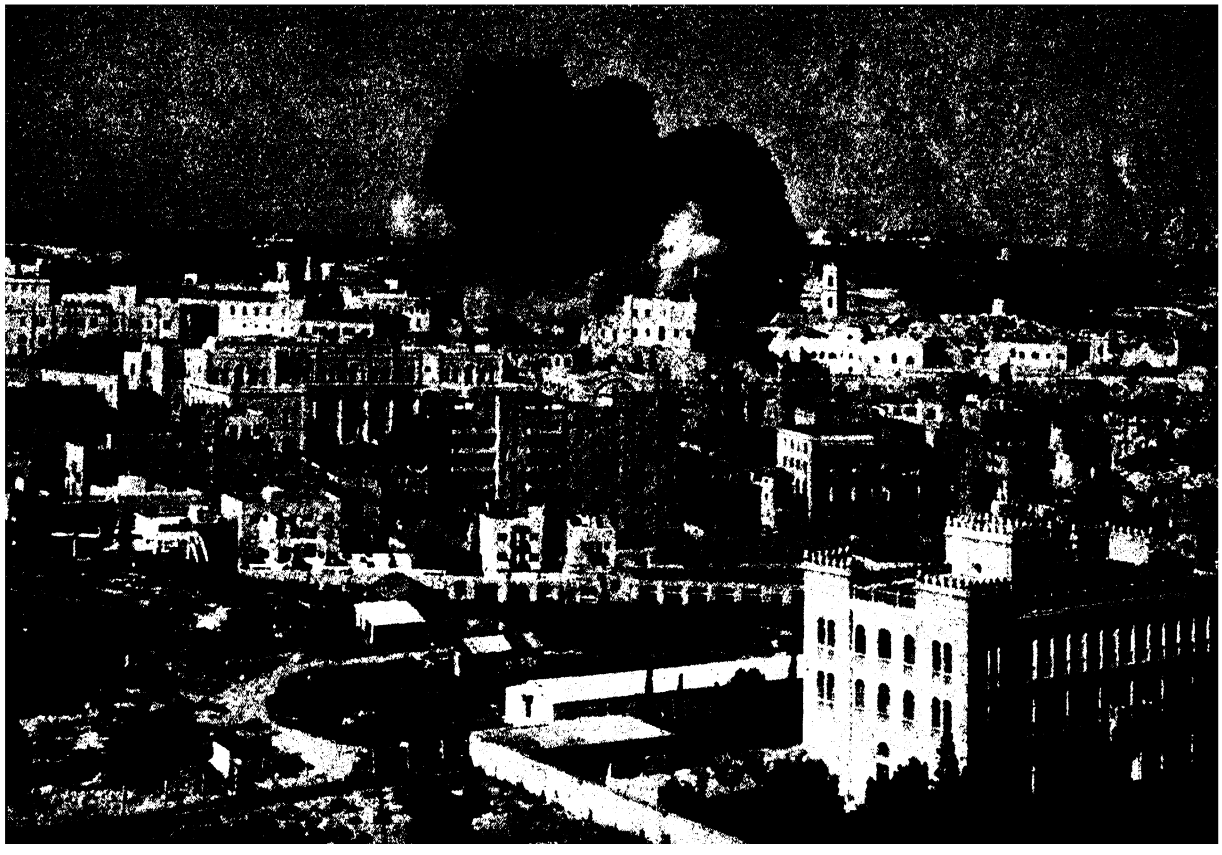
JAVA: *see* NETHERLANDS OVERSEAS TERRITORIES.

JERUSALEM. The capital of former Palestine, revered as a Holy City by Christians, Moslems and Jews alike, during 1948 and 1949 was divided by a demarcation line between Israel and the Hashimite kingdom of Jordan. An armistice was negotiated in March and some progress was subsequently made towards establishing a normal life on both sides of this demarcation line which divided the Arab-held old city, with its population of about 30,000, from the new city, of which the Jewish population was about 100,000. No-man's-land areas were eliminated within the city limits, reducing the possibilities of tension and incident.

Administratively, the new city was part of the state of Israel. It had a Jewish mayor, Daniel Auster, and a district representative, Avraham Bergmann, appointed by the Tel Aviv government. Jerusalem remained the headquarters of the Jewish agency, which was responsible for immigration and settlement of Jews in Israel. It was the seat of a number of Israeli government departments, including the Ministry of Religious Affairs and the post office. It was also the headquarters of the Supreme Court of Israel. A special session of the Knesset was held there after the elections in February; and in many ways the government was at pains to stress the city's inseparable connection with the state of Israel.

The old city was administered by a governor, appointed by King Abdullah of Jordan. It contained practically all of the traditional Holy Places. On the Jewish side of the line, the church of Dormition on Mount Zion, which contains the tomb of the Virgin, was restored to Dominican use. The Jews obtained access to the traditional tomb of David, from which they had been barred for centuries, and it has to some extent taken the place of the Wailing Wall in the old city as a place of religious veneration. The *Cenaculum*, supposedly the scene of the Last Supper, which is also on Mount Zion, remained in the custody of a Moslem family.

A special committee of Israeli and Jordan representatives set up under the armistice agreement made little progress in clearing up outstanding points of issue concerning Jerusalem. The Israelis offered the use of the direct road to Bethlehem in exchange for unrestricted access to Mount Scopus (seat of the Hebrew university). Meanwhile the old city remained without electricity because the power station of the Jerusalem Electricity company was on the Israeli side of the city. Other points of issue were the restoration of the water-supply, the opening of the Latrun road and apportionment of the contents of the Rockefeller Museum of Palestine Antiquities. Some in the pumping-stations were still under Arab control and Jewish Jerusalem was dependent on an emergency pipe-line, which was being enlarged.



A three-ton ammunition depot in a sewer in Jerusalem near the Damascus gate exploding on Aug. 23, 1949. Some ammunition had been removed but it was considered too dangerous to remove the rest.

Both Israel and Jordan opposed an Australian-sponsored plan approved by the general assembly of the United Nations on Dec. 9, 1949, to place Jerusalem and its environs, an area of 100 sq. mi. including Bethlehem, under permanent U.N. control as a *corpus separatum*.

On Dec. 26 the Knesset (parliament) was moved from Jaffa-Tel Aviv (*q.v.*) to Jerusalem. The seat of government remained at Jaffa-Tel Aviv. (*See* also ISRAEL; PALESTINE.)

(J. WR.)

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JESSUP, PHILIP C., U.S. lawyer and diplomat (b. New York city, Jan. 5, 1897), was educated at Hamilton college, Clinton, New York, Yale university and Columbia university, where he received his doctor's degree in 1927. He taught international law at Columbia, becoming Hamilton Fish professor of international law and diplomacy in 1946. In 1929 Jessup was assistant to Elihu Root at the conference of jurists on the Permanent Court of International Justice. He also lectured at the Academy of International Law at The Hague and in 1930 was legal adviser to the U.S. ambassador to Cuba. From 1924 to 1944 he was assistant director of the Naval School of Military Government and Administration and at the same time lectured in a similar school for the army. He was assistant secretary general to the U.N.R.R.A. conference in 1943 and the U.N. Monetary and Finance conference at Bretton woods, New Hampshire, in 1944. On Jan. 3, 1948, President Truman appointed him deputy U.S. representative on the " little assembly " of the U.N. general assembly and in May appointed him deputy representative on the Security council. In Dec. 1948 he was granted the personal rank of ambassador. On Feb. 10, 1949, he was given a new position as ambassador-at-large for special assignment to international meetings requiring an experienced representative of high rank. He represented the United States in the initial discussions that led to the ending of the Soviet blockade of Berlin and was one of the United States advisers at the Council of Foreign Ministers in Paris in May and June. In July he was appointed to direct a review of U.S. diplomatic policy towards the far east. Jessup was a member of the U.S. delegation to the fourth general assembly which opened at Flushing Meadow, New York, on Sept. 20.

JET PROPULSION AND GAS TURBINES. During 1949 steady improvement in turbo-jets and turbo-props was made and new gas turbines for industrial purposes were put in hand.

Great Britain. *Turbo-jets.* To establish turbo-jets' inherent reliability, the de Havilland Goblin 2 (3,100 lb. maximum sea-level static thrust) which had been previously subjected to a 500 hr. bench test simulating repeated fighter sorties, received a normal overhaul and ran a similar 500 hr. test. After a second overhaul, 210 hr. to the same schedule were achieved before minor failure. No thrust loss occurred throughout and only 61 man-hours' maintenance was necessary. The Air Registration board's civil approval was granted to Goblin 3 (3,350 lb.m.s.l.s.t.) and military version, Goblin 4 (3,500 lb.m.s.l.s.t.) was announced. Goblins continued to engine Vampires in many countries; including Vampire 6 ground attack fighter-bomber and the D.H.113 derivative, the first jet night-fighter.

Four Ghost 45 turbo-jets (5,000 lb.m.s.l.s.t.) contributed



A three-ton ammunition depot in a sewer in Jerusalem near the Damascus gate exploding on Aug. 23, 1949. Some ammunition had been removed but it was considered too dangerous to remove the rest.

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(J. WR.)

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JESSUP, PHILIP C., U.S. lawyer and diplomat (b. New York city, Jan. 5, 1897), was educated at Hamilton college, Clinton, New York, Yale university and Columbia university, where he received his doctor's degree in 1927. He taught international law at Columbia, becoming Hamilton Fish professor of international law and diplomacy in 1946. In 1929 Jessup was assistant to Elihu Root at the conference of jurists on the Permanent Court of International Justice. He also lectured at the Academy of International Law at The Hague and in 1930 was legal adviser to the U.S. ambassador to Cuba. From 1924 to 1944 he was assistant director of the Naval School of Military Government and Administration and at the same time lectured in a similar school for the army. He was assistant secretary general to the U.N.R.R.A. conference in 1943 and the U.N. Monetary and Finance conference at Bretton woods, New Hampshire, in 1944. On Jan. 3, 1948, President Truman appointed him deputy U.S. representative on the " little assembly " of the U.N. general assembly and in May appointed him deputy representative on the Security council. In Dec. 1948 he was granted the personal rank of ambassador. On Feb. 10, 1949, he was given a new position as ambassador-at-large for special assignment to international meetings requiring an experienced representative of high rank. He represented the United States in the initial discussions that led to the ending of the Soviet blockade of Berlin and was one of the United States advisers at the Council of Foreign Ministers in Paris in May and June. In July he was appointed to direct a review of U.S. diplomatic policy towards the far east. Jessup was a member of the U.S. delegation to the fourth general assembly which opened at Flushing Meadow, New York, on Sept. 20.

JET PROPULSION AND GAS TURBINES. During 1949 steady improvement in turbo-jets and turbo-props was made and new gas turbines for industrial purposes were put in hand.

Great Britain. *Turbo-jets.* To establish turbo-jets' inherent reliability, the de Havilland Goblin 2 (3,100 lb. maximum sea-level static thrust) which had been previously subjected to a 500 hr. bench test simulating repeated fighter sorties, received a normal overhaul and ran a similar 500 hr. test. After a second overhaul, 210 hr. to the same schedule were achieved before minor failure. No thrust loss occurred throughout and only 61 man-hours' maintenance was necessary. The Air Registration board's civil approval was granted to Goblin 3 (3,350 lb.m.s.l.s.t.) and military version, Goblin 4 (3,500 lb.m.s.l.s.t.) was announced. Goblins continued to engine Vampires in many countries; including Vampire 6 ground attack fighter-bomber and the D.H.113 derivative, the first jet night-fighter.

Four Ghost 45 turbo-jets (5,000 lb.m.s.l.s.t.) contributed

o the prototype of the de Havilland Comet, Britain's irst jet-propelled passenger liner, predicted to cruise at 500 m.p.h. at 40,000 ft. and intended for trunk routes of Britain's airways corporations. On a test flight this aircraft lew from London airport to Castel Benito, Libya, just under 1,500 mi., in 3 hr. 23 min. and came back in 3 hr. 15 min. The round trip average of nearly 450 m p h. was 100 m.p.h. faster than the fastest air liner in service. Specific kerosene consumption of 1·06 lb /lb. thrust/hr. was quoted and development to higher thrusts was pursued. The de Havilland fighter-bomber prototype, Venom, also mounted a Ghost engine. Sweden received licence to manufacture Ghosts additionally to Goblins.

The Rolls-Royce effort on centrifugal compressor turbo-jets was concentrated on the Tay, a double-sided impeller similar to the Nene (5,000 lb m.s.l s t.) and of same diameter but capable of passing 20% more air. Licence to build Tays, additionally to Nenes, was acquired by Pratt and Whitney of U.S.A. Nenes propelled the Vickers Supermarine 510 and Hawker P.1052, aerodynamically improved versions of Attacker and Sea Hawk, respectively. A novel Nene application was in a high speed flow aerodynamic research wind tunnel; air was drawn through the working section by impeller suction and by exhaust ejector action.

Derwent 5 (3,600 lb.m.s.l.s.t.) continued in Gloster Meteor variants. A specially equipped Meteor remained in flight 12 hr. by refuelling ten times and demonstrated the potentiality of jet fighters to maintain standing patrols or act as bomber escorts. A Derwent also powered the Avro 707 delta-wing research aeroplane. Belgium received licence to build Derwent 5s. Also under development by Rolls-Royce was an axial compressor type Avon, reported to be the world's most powerful turbo-jet. It was officially stated that an early variant delivered 6,000 lb. sea level static thrust. Avons powered Britain's first jet bomber, English Electric Canberra, of performance comparable with contemporary jet fighters. A special Avon-engined Meteor was stated to have climbed nearly 40,000 ft. in four minutes.

The Armstrong-Siddeley Adder (1,100 lb. m.s.l s.t), turbo-jet version of Mamba, approached flight stage. This firm disclosed the development of the Sapphire but published neither design nor performance details.

A noteworthy extension to the jet propulsion principle, released after several years of development, was exhaust reheat, a method of thrust augmentation for turbo-jets for take-off, climb and combat purposes. Additional fuel injected into the exhaust stream was vaporized; combustion was initiated by a spark and supported by oxygen contained in the excess air which had been introduced into the engine to cool the combustion products to a temperature unharmful to turbine blades. Flame stabilizers within enlarged jet pipe promoted flow conditions necessary for efficient combustion. Use of variable area final nozzle enabled engine operating conditions and reliability to remain unaltered. Full scale tests demonstrated sea level static thrust gains of 28%—48% at a cost of 2½% loss of normal thrust with reheat equipment inoperative. The highest reheat combustion efficiency reported was 91% at 40% thrust augmentation with kerosene consumption of 6 0 lb./lb. thrust/hr. increase. In altitude flight thrust gains were considerably greater. Recognized disadvantages were high reheat fuel consumption, high temperature of reheated jet and mechanical complication of variable nozzle and additional weight.

De Havilland published details of their 5,000 lb. thrust Sprite rocket motor for take-off and emergency jet propulsion.

Turbo-props. The first turbo-prop in quantity manufacture was the Armstrong-Siddeley Python required for Westland Wyvern 2 torpedo-strike fighter for the Royal Navy. A Python was subjected to type approval test at 4,110 maximum equivalent h.p. Armstrong-Siddeley's smaller turbo-prop was developed up to Mamba 2 (1,420 m.e.h.p.) which made initial flights in the Armstrong-Whitworth Apollo, Handley-Page Marathon 2 and converted Dakota civil aircraft. Tests started of the Double Mamba which consisted of two Mamba units, side-by-side, with their individual reduction gears replaced by independent gearing in a common casing, driving two co-axial propellers in opposite directions. It was found that one half engine could run whilst the other half and its related propeller remained stationary. Power output was 2,840 m.e.h.p. at sea level with kerosene consumption of 258 gal. per hr. Net dry weight was 2,000 lb. In competition with Mamba, the Rolls-Royce Dart was type tested at 1,365 m.e.h.p. and developed towards higher powers for the Vickers Viscount. It was the first turbo-prop civil aeroplane granted the Air Registration board's airworthiness certificate. Another combination of identical units was Napier's Coupled Naiad, designed to drive one centrally mounted counter-rotating variable pitch propeller through reduction gearing and clutches such that either unit could be stopped for fuel economy when cruising.

The Bristol Theseus completed type test at 2,500 m.e.h.p. and enabled the Handley-Page Hermes 5, a four-engined airliner prototype, to make preliminary flights. The Proteus, (3,500 m e h p.), in single form, flew experimentally and the Coupled Proteus, for the Saunders-Roe Princess civil flying boat and second Brabazon airliner, ran initial tests.

Propeller control systems were under development to suit the starting and flight characteristics of turbo-props. Experiments with ducted fan gas turbines ceased. Among cartridge-operated gas turbine starters tested was the Plessey design with two 5 in. diameter contra-rotating turbines, rotated at 45,000 r p m to drive the main engine rotor through reduction gearing and engagement clutch Weight with two cartridges was 50 lb. and maximum energy output was 50,000 ft.lb. The relative merits of a wide range of aircraft turbine fuels were under practical examination. Aviation kerosene remained the normal flight fuel.

Power-generating, Marine and Locomotive Gas Turbines. Additional to the Gas Turbine Collaboration committee, inaugurated in 1941 to foster aero-gas turbines exclusively, the independent Industrial Gas Turbine Development committee was formed to encourage commercial gas turbines and to make recommendations to interested organizations and government departments. Employment of gas turbines to improve efficiencies of industrial plants, including blast furnaces, chemical production processes and oil-refining equipment was under active investigation by British industry.

For power-generation, Metropolitan-Vickers continued to operate their 2,000 kw. peak load experimental set and proceeded with the manufacture of a 15,000 kw. open cycle plant for Trafford park, Manchester, power station. Under construction was a 1,750 kw. continuous load set to run on natural gas and a 2,500 kw. oil fired stand-by set for the Metropolitan Water board. A set of equal power from Brush Electrical Engineering company and a 1,875 kw. set from English Electric were also ordered by the M.W.B. C. A. Parsons progressed with the construction of open cycle sets for the British Electricity authority and the National Gas Turbine establishment. Ruston and Hornsby ran an open cycle gas turbine intended for power generation at their own works. Designed as a general purpose long-life plant, it comprised a 13-stage axial compressor which supplied twin combustion chambers through a contra-flow tubular heat exchanger. A two-stage turbine drove the compressor and an independent two-stage power turbine rotated a 750 kw. alternator through 4:1 reduction gearing. When operated at 1,340°F. maximum gas temperature at 4:1 pressure ratio, designed maximum output was 1,070 b.h.p. Plant thermal

efficiency was estimated at 24% at full load and 18½% at 40% load. Without heat exchanger, maximum output was expected to be 1,250 b.h.p. with thermal efficiency of 17½%. Plant weight complete with alternator was 21½ tons. The 500 b.h.p. experimental open cycle set at John Brown's completed over 1,000 hr. running before conversion to a closed cycle system. The 12,000 kw. closed cycle plant for the North of Scotland Hydro-electric board was in manufacture but would not be operable before autumn 1950. The designed full load thermal efficiency was 32%. In design was a 700 kw. closed cycle continuous operation gas turbine for utilization of waste heat in exhaust gases from coal-gas retorts.

The Metropolitan-Vickers F.2 type experimental set in a motor gun-boat was still the only marine gas turbine in use. It had completed over 400 hr. running. British Thomson-Houston proceeded with manufacture of a 1,200 s.h.p. open cycle marine set of 20% thermal efficiency for the tanker "Auris" and Rolls-Royce progressed with the main components for machinery to replace steam turbines of 8,000 s.h.p. in an escort vessel. The largest British marine set under construction was designed by English Electric to give 6,600 s.h p. at 5,600 r.p.m. A marine auxiliary plant of 1,000 kw. was in design by W. H. Allen. Britain's first locomotive gas turbine neared completion at Metropolitan-Vickers. Of 2,700 h.p. it was designed to give a rated continuous tractive effort of 29,000 lb. Preliminary tests were expected early in 1950. Rover had on test an automobile gas turbine similar in lay-out to the earlier 100 h.p. unit but with a designed output of 200 h.p.

For industrial plants, experiments with fuels heavier than gas oil and diesel fuel were pursued and progress was made towards the satisfactory combustion of pulverized coal. Peat-burning experiments were initiated.

Commonwealth. In the Commonwealth, Canada continued tests of the Avro (Canada) Chinook (2,600 lb.m.s.l.s.t.) and announced the Orenda, a larger axial compressor type turbo-jet. No details were released. Cold climatic tests of aero-gas turbines, including anti-icing and de-icing methods, were continued by the National Research council in collaboration with British Ministry of Supply. The Avro (Canada) C.102 jetliner made preliminary flights powered with Rolls-Royce-built Derwent 5 turbo-jets. Australia built Nenes under licence for Australian-built Vampire fighters. (R. H. St.)

Europe. News of the building of aircraft gas turbine engines on the continent came from two countries, France and Sweden, notably the former. At an exhibition held in Paris, several French aircraft gas turbine engines were shown. The larger engines, all of single shaft design, incorporated axial flow compressors designed for a pressure ratio of approximately 4 : 1. Both propeller and pure jet types were included; the outputs of the former ranged from 1,450 h.p. to 3,000 h.p., and of the latter type the thrusts were of the order of 4,800 lb. with specific fuel consumptions of between 1·1 and 1·2 lb. per hr. per lb. thrust, all these figures referring to take-off conditions. The organizations exhibiting such engines included the Société Nationale d'Étude et de Construction de Moteurs d'Aviation, and the Société de Constructions et d'Équipements Mécaniques pour l'Aviation. The Société Rateau was developing a jet engine of some 2,900 lb. take-off thrust, in which a proportion of the total air-flow, after some compression, by-passed the main components and mixed with the hot exhaust formed from the remaining air-flow. At the exhibition the firm of Turbomecca showed a small engine, incorporating a centrifugal compressor and delivering 140 h.p. A jet version of the same engine was also displayed.

News of two Swedish jet engines was made known, one comprising a two-stage centrifugal compressor, annular combustion chamber and four-stage turbine, the other being of the axial flow compressor type.

So far as marine, locomotive and stationary plants were concerned, reported progress was mostly confined to Swiss firms. The Brown-Boveri gas turbine locomotive was in regular scheduled service, and up to the middle of the year, the firm's 13,000 kw. and 27,000 kw. double-compound power generating sets installed at Beznau completed 3,000 hr. and 500 hr. running respectively. The same firm began manufacture on two simple sets of 4,000 kw. output for southern Persia, intended to burn natural gas. On the 1,000 kw. set, built by Maschinenfabrik Oerlikon, various grades of fuel were tried, including a very heavy residual, and it was reported that the ash deposits had not proved troublesome. Erection had started on the Escher-Wyss 12,500 kw. double-compound closed cycle power generating set for Paris. The semi-closed cycle engine of 7,500 h p. intended primarily for marine use and built by Sulzer Brothers underwent trials, and construction proceeded on a similar engine of 20,000 kw. output for power generation in Switzerland.

From Denmark came news of the designing of a marine gas turbine engine of approximately 3,000 h.p., working to an open cycle. The high pressure portion of this engine was built and was ready for testing in July. Some firms in Holland collaborated in the building of an experimental marine gas turbine engine of 2,500 h.p.

United States. In the U.S. few new aircraft gas turbine engines were announced during the year, and the development of existing types continued. The firm of Pratt and Whitney, engaged on their production model of the British Nene engine developed it to pass a 150 hr. qualification test. The latest engine reported in the Westinghouse 24C series was rated at a take-off thrust of 3,200 lb. In addition to their simple jet engines, the Allison division of the General Motors corporation was reported to be developing a twin propeller turbine engine of some 5,500 h.p. take-off rating and incorporating axial flow compressors. With other organizations, development of existing propeller and simple jet engines proceeded, and in the aircraft field emphasis appeared to be laid on the axial compressor type of engine. The small engine of the Boeing corporation, rated between 100 h.p. and 200 h.p. and incorporating a centrifugal compressor, still, however, commanded interest.

Research in the U.S. on gas turbine engines was given prominence and subjects singled out for special mention included investigations into the fundamental processes of combustion, experiments in after-burning and water-alcohol injection for thrust boosting of jet engines, research on the heat-resisting-strength properties of mixtures of ceramics and metals, and on turbine blade cooling.

Work on ram jets was prosecuted vigorously and it appeared that most of the experimental work was carried out with ram jets of 20 in. diameter, but larger ones were reported probable. A test vehicle powered by a 20 in. ram jet attained a flight Mach number of 2 7.

In the marine, locomotive and power generating fields, reported progress was confined mostly to plants designed for locomotive use. The General Electric company's 4,800 h.p. locomotive engine successfully continued its test running and underwent its first public track run in June. Tests were carried out on this engine using a heavy residual fuel and mention was made of a possible conversion to pulverised coal-burning. Some details were given of the Westinghouse and Elliot engines, both gas turbine-electric, the former of 2,000 h.p. output employing a simple cycle with a multi-stage axial flow compressor and turbine. The output of the latter engine was given as 3,750 h.p. employing a single shaft design with a two-stage centrifugal compressor. Mention was made of the Allis-Chalmers 4,100 h.p. locomotive engine, again of the gas turbine-electric type with the prime mover working on a simple heat exchange cycle. This engine was eventually

to be destined for coal burning. It was reported that Bituminous Coal Research Incorporated were planning coal-burning tests on a Houdry gas turbine unit; further tests were to be made on an ash-collecting system developed during previous research which had shown that a combustion efficiency of 98% could be attained with efficient removal of the fly ash.

It was stated that the General Electric company's power generating plants were to be extended to include a 5,000 kw. set in course of manufacture and scheduled for tests early in 1949. The set was of a double-compound design with a relatively high thermal efficiency, given as 26·4%. (*See* also AIRCRAFT MANUFACTURE; AIR FORCES OF THE WORLD; AVIATION, CIVIL.) (S. J. M.)

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JEWELS: *see* GEMS.

JEWS, DISTRIBUTION OF. The predominant characteristic in the demography of the Jewish people during 1949 was the continued flow of immigration to Israel (*q.v.*) which from May 15, 1948, to Nov. 15, 1949, admitted 330,000 newcomers. Precise figures showing the number of emigrants from the various countries were not available but the following estimates indicate the main trends of this, the third Jewish exodus:

Displaced persons	130,000	Yugoslavia	10,000
Bulgaria	37,000	Greece	3,000
Poland, Rumania and Hungary	20,000	Yemen	30,000
Czechoslovakia	20,000	Morocco	15,000
Turkey	30,000	Libya	13,000
		Miscellaneous	22,000

Current census figures of the Jewish population of the countries of the world were practically non-existent. The table is based upon the most reliable information available; but it must be emphasized that the figures are estimates only.

The total Jewish population of the world was thus something over 11 million, compared with a little under 17 million in 1939. The striking fall in numbers, in a world in which the population as a whole had increased rapidly, was due almost entirely to the slaughter of some six million Jews by the Germans during World War II.

THE WORLD DISTRIBUTION OF THE JEWS

Countries	Jews	% of population	Countries	Jews	% of population
Aden	1,500	1·9	Japan	2,000	—
Afghanistan	4,000	0·04	Lebanon	6,500	0·6
Algeria	100,000	1·4	Libya	26,000	2·4
Argentina	360,000	2·2	Mexico	25,000	0·1
Australia	35,000	0·5	Morocco		
Austria[1]	12,000	0·2	a. French	235,000	2·8
Belgium	35,000	0·4	b. Spanish	14,190	1·1
Bolivia	5,000	0·1	Netherlands	25,000	0·3
Brazil	120,000	0·3	New Zealand	3,000	0·2
Bulgaria	9,680	0·1	Norway	1,100	—
Canada	180,000	0·2	Paraquay	3,000	0·2
Chile	25,000	0·4	Persia	90,000	0·7
China	4,000	—	Peru	2,600	0·03
Colombia	7,000	0·1	Poland	90,000	0 4
Cuba	10,000	0·2	Portugal	4,000	0·1
Czechoslovakia	17,000	0·1	Rumania	360,000	2·2
Denmark	7,000	0·2	South Africa	103,400	0·9
Ecuador	3,500	0·1	Southern Rhodesia	3,500	0·1
Egypt	75,000	0·4	Spain	3,500	—
Ethiopia[2]	50,000	0·5	Sweden[3]	17,000	0·3
Finland	1,800	0·1	Switzerland	23,000	0·5
France	230,000	0·6	Syria	5,000	0·2
Germany[1]	15,000	0·02	Tangier	9,000	9·0
Great Britain	450,000	0·9	Turkey	50,000	0·3
Greece	8,000	0·1	United States[4]	5,000,000	3·4
Hungary	170,000	1·8	U.S.S.R.	2,000,000	1·0
India	28,000	—	Uruguay	37,000	1·7
Iraq	120,000	2·6	Venezuela	3,000	0·1
Ireland	5,500	0·2	Yemen	10,000	0·6
Israel	1,000,000	82·3	Yugoslavia	5,500	0·03
Italy[1]	40,000	0·1			

(*See* notes, next column)

Apart from the movement towards Israel, mentioned above, there was also a not inconsiderable migration of Jews from Europe to North and South America and Australia. A large proportion of these immigrants had been displaced persons who had been living under the care of the U.N. International Refugee organization (*see* REFUGEES) which had sponsored their transfer to various countries of settlement. When the state of Israel was established there were over 146,000 Jews who were being looked after by the I.R.O., but by the end of 1949 the main problem of Jewish displaced persons in Europe had been solved—for the gates of Israel had been opened wide to receive all Jews who could make the journey. In general, the exodus would have been far greater if freedom of movement had not been denied to the Jews in the Soviet-dominated countries and in certain Arab countries, notably Iraq and Egypt, but from all these small numbers made their way surreptitiously either to western Europe or to Israel. (D. F. K.)

JOHANNESBURG. The largest city and biggest industrial, commercial and gold mining centre in the Union of South Africa, Johannesburg also ranked as second largest hub of population in the African continent. Area: 89·6 sq. mi., one of the biggest in the Commonwealth of Nations under the control of one local authority. Pop. (June 30, 1949, est.): 839,154 including 343,192 Europeans, 452,310 Natives, 16,802 Asiatics and 26,850 Eurafricans. The total value of land and buildings was estimated (1949-50) at £217 million.

Although progress was made during 1949, it was considerably hampered by financial stringency. At the request of the Union government the city council pruned estimates of capital expenditure drastically. Approved building plans were also much reduced. Although 57,000 Native dwellings were needed, the municipality, necessarily, stopped all housing developments, except those for which commitments had already been made. In November the city floated a new loan of £3 million at 3¼%.

During the year S. P. Lee was mayor, being succeeded in November by J. Mincer. The city council contained 33 representatives of the United party, three Labour members, one Independent and five Nationalists. The first two freemen of the city were elected during 1949. In November the council invited Field Marshal J. C. Smuts to become a freeman in 1950. The city was seeking a charter to give it greater powers within its own boundaries.

Including the public library and the municipal art gallery, the cultural assets of the city were estimated to be worth £750,000. (W. R. GN.)

JORDAN, HASHIMITE KINGDOM OF THE. Independent Arab kingdom of the middle east bounded by Israel (west), Syria (north), Iraq (east) and Saudi Arabia (southeast and south). Area (excluding Arab Palestine): 34,750 sq. mi. Pop. (est. 1947): 400,000. Capital: Amman (pop. 60,000). Arab Palestine, which was occupied by Jordani troops, covers approximately an area of 5,000 sq. mi., with a population of about one million. Languages (former Transjordan): Arabic 97%, Circassian 2·5%.

NOTE: In each of the following countries the Jewish population was estimated to number less than 1,000: Albania, Burma, Dominican Republic, Dutch Guiana, Guatemala, Kenya, Luxembourg, Northern Rhodesia, Pakistan and Panama.

[1] Excluding D Ps.

[2] This is the figure given by Dr. J. Faitlovitch, executive director of the American Pro-Falasha committee.

[3] Including about 10,000 refugees.

[4] This is the figure which was given in the *American-Jewish Year Book 1947-48* and was generally accepted as authoritative although the comparable figure in the *American-Jewish Year Book 1948-49* was 4,500,000.

Religions (former Transjordan): Moslem 91% (chiefly Sunni); Christian 8·5% (chiefly Arab-speaking Greek Orthodox). King, Abdullah Ibn Hussein (*q.v.*); prime minister, Tawfiq Pasha Abulhuda.

History. Transjordan was accorded diplomatic recognition by the United States on Jan. 31, 1949. The government announced on June 2 that Transjordan had changed its name to the Hashimite Kingdom of the Jordan and that foreign missions in Amman and the U.N. had been asked to use the new style in all correspondence and documents.

On Jan. 8 it was announced that in response to a request from the government under the Anglo-Transjordan treaty of March 15, 1948, a British force had been sent to Aqaba. The government early in March informed the British minister that Israeli forces moving southward to the gulf of Aqaba had penetrated Jordanian territory at one point and were withdrawn, and on March 12 reinforcements arrived for the British detachment at Aqaba. In March it became known that the British subsidy for the Arab Legion had been increased from £2 million to £3 million. On May 4 it was announced that an interest-free loan of £1 million had been granted by Britain for development work in connection with the repatriation of refugees.

A cease-fire agreement with Israel was signed at Rhodes on March 11, and an armistice agreement on April 3. The terms provided that the Arabs should retain the territory then held except that control of the Hadera-Afula road and the Lydda-Haifa railway line (except at Tulkarm) should pass to the Israelis. Partially demilitarized zones were to be established along the demarcation lines. By agreement with the Iraqi and Egyptian governments, Jordan in April took over the occupation and administration of the Jenin-Tulkarm and Hebron-Bethlehem areas which had hitherto been Iraqi and Egyptian zones of occupation respectively. The *de facto* accession to the territory of Jordan of those parts of Palestine occupied by its troops, which had been anticipated by the kingdom's change of name, did not receive formal recognition from any power during the year. The government was reshuffled on May 3, the Foreign Ministry and two other ministries being given to Palestinians. On April 26 three Palestinian Arabs and a Jordanian were sentenced to death for conspiring against the life of the King.

King Abdullah on April 10 issued a statement on the coup d'état in Syria (*q.v.*) which said that Jordan's policy was one of co-operation with Syria until the Arab states had expressed their verdict on the Greater Syria and Arab unity moves impelled by events in Palestine. Despite the hostile statements of Husni ez-Zaim, Ruhi Bey Abdulhadi was sent to Damascus on May 20 on a good-will mission. At the army day parade on May 24, at which Syria, Lebanon, and Iraq were represented, the King reviewing the Arab Legion called on them to "follow the tradition of the first Moslem armies and regain their glory . . . by implementing the fundamentals of the last revolt . . . General Arab unity must follow." Jordan was one of the first states to recognize (on Aug. 20) the Syrian government of Hashem Bey Atassi, to whom the King telegraphed his congratulations on Aug. 15.

The King visited Tehran on July 28 and on Aug. 7 it was announced that agreement had been reached between Persia and Jordan for a treaty of friendship and collaboration. On Aug. 18 he arrived in Britain as a guest of the government. He was accompanied by his son, Prince Naif. The prime minister was also in London at the same time, having arrived in July; so was the British minister, Sir Alec Kirkbride. King Abdullah visited Spain on his way home.

On Aug. 26 the Jordanian minister in London announced that a firm of British irrigation engineers had been employed to make the best use of the water available to the kingdom from the Jordan and Yarmuk rivers, and were now engaged in drafting practical schemes of irrigation for the Jordan valley in so far as it lies within the kingdom of the Jordan. Press reports said that it was planned to irrigate 75,000 ac. at a cost of some £10 million. A law was enacted in September to replace the Palestine currency which had hitherto been legal tender with a new currency administered by a Jordan Currency board in London. (C. Ho.)

Education. (1948) Schools: government 89, non-government 86, total pupils 15,201, total teachers 361

Agriculture. Main crops ('000 metric tons, 1948): wheat 100, barley 41, lentils 7; ker senneh 9; horse beans 9; millet 9; tobacco (metric tons) 120 Livestock ('000 head, 1943): goats 324; sheep 200; cattle 53; donkeys 30; horses 6; camels 6; mules 2.

Foreign Trade. (1948): Imports £P11,539,950; exports £P727,638; re-exports £P1,783,633; transit of crude oil £P706,313. Principal imports: sugar, cotton piece-goods and rice Principal exports: fresh vegetables, lentils, fresh fruit, hides and skins.

Transport and Communications. Licensed motor vehicles (Dec. 1948): cars 1,241, commercial vehicles 1,123

Finance and Banking. Budget: (1947) revenue £P1,508,645, expenditure £P1,620,672. Monetary unit: *Palestinian pound* at par with the pound sterling.

JUDAISM. The chief problem in 1949 was the continuing restoration of Jewish religious life in countries where it had been destroyed under the German occupation. In Germany, Jewish religious life went on consolidating itself, notwithstanding much active resentment among former nazis, which was expressed in the desecration of synagogues and Jewish cemeteries. In 1949 there were about 20,000 Jews in Germany, organized in nearly 100 Jewish communities. Although a few former German rabbis had returned from England and America there was a severe shortage of qualified rabbis. A noteworthy event was the issue of messages of good wishes to the Jews in Germany by the president of the republic of West Germany, Dr. Theodor Heuss, and by the chancellor, Dr. Konrad Adenauer. Symbolic too was the publication in 1949 of 1,050 copies of the Babylonian Talmud, printed in Heidelberg, the first copies of the Talmud printed on German soil since Hitler had thousands of copies of the Talmud burned on the bonfires of books.

In Poland, which before World War II had the largest Jewish community in Europe, over 3,500,000 members, there were in 1949 less than 90,000 Jews. There were 70 organized Jewish religious communities under the Vaad Hakehillot, which provides for the maintenance of the synagogues, Jewish religious schools, Kosher slaughter houses, cemeteries, etc. There were complaints of interference by the Communist-dominated Jewish central committee, especially in education. The Polish government promised to grant the Jewish religious communities complete autonomy and independence from the Jewish Central committee. A great difficulty in Poland as in Germany was the shortage of qualified rabbis and teachers, and the Vaad Hakehillot opened special courses for training them. There was much uncertainty during 1949 about the right of Jews in the Soviet Union to observe their religion and to provide Jewish religious instruction for their young. Similar uncertainty existed in Czechoslovakia, Hungary and other eastern European countries.

The Jewish communities of France, Belgium and Holland re-established themselves almost on prewar lines, and there was much religious activity and expansion among them. France particularly was becoming a centre of revived Jewish religious and cultural life.

Much attention was paid during 1949 to Jewish religious development in the state of Israel. It was noted with satisfaction that the synagogues were crowded on the New Year and Day of Atonement, and that the prime minister, David Ben-Gurion, and members of his cabinet attended the

synagogue services. There was some talk of a revival of the Sanhedrin, a world-wide authoritative rabbinical body, centred in Israel. The idea was opposed, however, by most orthodox rabbis throughout the world, on the ground that Jewish tradition was against such centralization.

In the United States of America, with the largest Jewish community in the world, there was an increasing Jewish religious interest and efforts were made to bring into the synagogues the large numbers of "unaffiliated Jews."

In Great Britain a few rabbis and ministers accepted the opportunities offered them by the rich and expanding Jewish community of South Africa. Some sections of Anglo-Jewry complained of South Africa's drain upon the Anglo-Jewish ministry, but others saw it as a natural strengthening of the ties between the Jewish communities of the homeland and of the dominion. The chief rabbi, Israel Brodie, who conducted a pastoral tour during the year to the smaller communities in the British Isles, to strengthen their religious life and their contacts with larger communities.

An item of interest was the appointment of Rabbi Solomon Gaon as Haham of the Spanish and Portuguese congregation, the original Jewish community in the United Kingdom. It was the first appointment to this ancient office since the Haham Dr. Moses Gaster retired in 1918. (J. LWH.)

JUDICIARY, BRITISH. The principal changes during 1949 in the composition of the English judiciary followed the deaths, within three days of each other, of two of the lords of appeal in ordinary, namely Lords Uthwatt and du Parcq (*see* OBITUARIES). The former became a judge of that division in 1941 and was elevated to the House of Lords in 1946. Lord du Parcq had become a judge of the King's Bench division in 1932, was raised to the Court of Appeal as a lord justice in 1938 and like Lord Uthwatt was elevated to the Lords in 1946.

These two vacancies in the House of Lords led to a widespread re-shuffle of judicial appointments. Lord Greene, whose health had not been good and whose duties as master of the rolls and *ex-officio* president of the Court of Appeal involved a good deal of administrative work, exchanged that post for appointment as a lord of appeal. The other of the two vacancies in the supreme tribunal was filled by the promotion direct from the Chancery Bar of Sir Cyril Radcliffe, K.C., who served in the war as director general of the Ministry of Information. Thus two Chancery lawyers now held places formerly filled by one Chancery and one Common lawyer.

Lord Justice Evershed was promoted to be master of the rolls at the early age of 49, which post he combined with the chairmanship of the Committee on the Practice and Procedure of the Supreme Court. Mr. Justice Jenkins was promoted from the Chancery division to the vacant place in the Court of Appeal, and H. O. Danckwerts was raised to the bench in his stead.

In Scotland, H. W. Guthrie, K.C., became a senator of the College of Justice, and Lord Thomason, the lord justice-clerk, became chairman of the Central Advisory committee set up by the lord chancellor to make recommendations for the appointment of justices. In July, Lord Moncrieff, a former lord justice clerk, died (*see* OBITUARIES) (W. T. Ws.)

JUDICIARY, U.S. The Supreme Court suffered the loss of two of its members during 1949—Associate Justice Frank Murphy who died on July 19 and Associate Justice Wiley B. Rutledge who died on Sept. 10. They had served since 1940 and 1943 respectively.

President Truman appointed Thomas C. Clark, of Texas, the then attorney general of the United States, and Sherman Minton, of Indiana, a judge of the United States court of appeals for the 7th circuit and formerly a United States senator, to succeed Justice Murphy and Justice Rutledge.

During the 1948 term 1,434 cases were disposed of, a record only exceeded by the 1,520 in the 1946 term. In the opinion of the court, 90% of the cases did not merit disposition by full opinion, as was indicated by the fact that only 147 cases were covered by the 114 signed opinions rendered. Ninety dissenting opinions were written and 35 decisions were carried by a vote of 5 to 4. In addition there were 36 concurring and separate opinions. As at the preceding term the government was a party to slightly more than 50% of the cases decided by written opinion, approximately 70% being in its favour.

The United States Supreme Court was composed at the end of 1949 of the following members (dates indicate year appointment was confirmed by the senate): chief justice, Frederick M. Vinson (1946); associate justices, Hugo L. Black (1937), Stanley F. Reed (1938), Felix Frankfurter (1939), William O. Douglas (1939), Robert H. Jackson (1941), Harold H. Burton (1945), Thomas C. Clark (1949) and Sherman Minton (1949). (H. B. WY.)

JUGOSLAVIA: *see* YUGOSLAVIA.

JUTE. Realizing that manufacturing costs in the industry were appreciably increased by the jute tribunal award late in 1948, the Indian mill owners hoped to offset this disadvantage eventually by increased production; but early in Jan. 1949, they saw that, because of the short supply of raw jute, they would have difficulty in operating at full capacity for the remainder of the 1948-49 jute year. After long discussion, it was decided to curtail output during the second half of 1949 by closing the mills for one full working week in every month from July. Receipts of raw jute by the mills during the period July-Sept. 1949 had declined to 38% of normal purchase and production by 53%, resulting in a reduction in stocks by the middle of September to only 642,000 bales, representing slightly over one month's normal work (500,000 bales) and thus the mills had no basis for forward trading on which they depend.

By working normally, the jute mills would have consumed 1,250,000 bales of raw jute whereas, by working shortened hours, consumption would only be 1,050,000 bales, thus saving 200,000 bales without losing export trade. During the closed week all workers received involuntary unemployment benefits amounting to half normal earnings plus Rs. 2 a week food concession and festival holidays with pay.

Restriction of production and other measures taken by India, including an increase of 100% in the export tax on raw jute shipments from Calcutta, the banning of raw jute exports and a rigid reinstatement of the export quota system on jute goods to hard currency areas, strengthened the price structure of jute goods; India further ensured the safety of her export markets by putting a control on selling prices of finished goods and allowing brokers and merchants a minimum of 5% profit.

Fresh problems were created for the jute industry by the devaluation of the pound, followed by the Indian rupee but not by the Pakistani rupee. The result was that jute mills outside the dollar areas paid more for raw jute whilst trying to furnish finished goods to hard currency areas at lower prices. Dundee, the largest manufacturing centre after Calcutta, also suffered from Pakistan's decision not to devalue. A steadily improved supply situation in Great Britain during the earlier months of 1949 had enabled the restriction on raw jute consumption, which had automatically controlled working hours in the spinning and manufacturing centres, to be relaxed, and a reduction in prices of Dundee yarns and manufactures was also about to come into force, when Pakistan

decided not to devalue and the Board of Trade immediately revoked its new schedule of prices. Stocks of raw jute held in Great Britain were estimated to be sufficient to last for seven months at the restricted consumption rate and, in order to make supplies last even longer, a further restriction on production was forecast.

These moves by India and Dundee were aimed against Pakistan, since no raw jute was being bought, in the hope that Pakistani growers would be forced to sell at prices more favourable to manufacturers. The Pakistani government, however, fixed a minimum price at which raw jute could be sold which, although comparing favourably with prices quoted in 1948 for the hard currency areas, was much higher for the sterling areas and was consequently unacceptable.

The longer India and Dundee could hold out without purchasing raw jute from Pakistan the better their chances of forcing Pakistan to revise its prices or else to devalue its currency. But compromise was probable since, even with Pakistan's best forecast of 5·5 million bales and India's 2·9 million bales, there was still a shortage of 1·6 million bales on the minimum of 10 million bales of raw jute required to bring down prices.

Important British exports such as carpets and linoleum and commodities packed and baled in jute might be hindered if the Dundee industry became short of raw material; and India, the greatest importing and consuming country, exporting to the U.S. over $150 million worth of jute goods annually, feared that, unless Pakistan reduced its raw jute prices, jute goods might price themselves out of the dollar markets where alternative packing materials were available (G. Hs.)

JUVENILE DELINQUENCY. Indications that the peak of juvenile delinquency was not reached in 1948 was borne out by figures published in Great Britain in 1949 and study of figures in Germany and the U.S.A. revealed similar trends. The plight of European economy, the breakdown of currency and the disintegration of family life owing to mass migration remained contributory causes. Despite the efforts of governments, the International Refugee organization and other bodies, adolescent flotsam and jetsam of World War II was still stealing, begging, wandering and often resorting to violence and depravity. Even in countries saved from the worst ravages of war juvenile delinquents of 1949 were those affected by the adverse factors of war during their most formative years.

In Great Britain, Appendix 2 of Criminal statistics, 1947, revealed an alarming increase in the number of youthful offenders over the years 1938-48 as is shown in the table.

BOYS AND GIRLS FOUND GUILTY OF INDICTABLE OFFENCES IN ENGLAND AND WALES

	Under 14	14-17	Total
1938	15,559	12,557	28,116
1945	14,422	19,081	43,503
1947	21,158	15,536	35,694
1948	26,729	17,748	44,477

A disquieting aspect of the steadily rising figures was the more serious and adult nature of crimes committed.

1949 was notable for attempts to focus public attention on juvenile delinquency and to secure support for both preventive and reformative measures. Three of the most notable of these efforts were:

1. The production of a French film on the treatment of delinquent children, *Aux Royaumes des Cieux*. The preamble to the film outlined the potentialities of new methods of re-education and appealed for funds, buildings, remuneration and training of skilled teachers.
2. In Holland the scheme of opening short term camp schools for delinquents or potential delinquents was extended to include 28 camps under the control of the extra scholastic education department of the Ministry of Education.
3. In Great Britain conferences were held at national and local levels. At the first of these the home secretary and the minister of education met representatives of the churches, local authorities, magistracy, teachers and voluntary organizations. Attention was drawn to the steep rise in the figures in the first part of 1948 as against the same period in 1947. Bad housing, lack of recreational facilities, lack of parental control and breakdown of family life were regarded as causes secondary to growing materialism and a decline in religious standards. Psychological investigations and research as envisaged in the Criminal Justice act, 1948, (Section 77) were discussed and a conference on the scientific study of juvenile delinquency was called by the relevant bodies. Recognition that the funds and buildings necessary for the full implementation of the Criminal Justice act were not readily forthcoming affected these deliberations. There was a resultant sharpening of that constant dichotomy of viewpoint on crime, punishment *versus* re-education. A demand for scientific research and treatment was countered by a hardening of opinion concerning the alleged leniency of magistrates and a demand for increased severity.

Increased publicity seemed to result in widespread concern, acceptance of the need for scientific investigation and growing disinclination to dismiss juvenile delinquency as merely evidence of either psychological disorder or an inevitable evil of postwar society.

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JUVENILE EMPLOYMENT. The important Employment and Training act of 1948 was not passed until the closing stages of the summer session of that year; most of the business of bringing it into operation had therefore to be done during 1949. In consequence 1949 was essentially a period of adjustment and reconstruction. The new National Employment council was getting into its stride, as were the Scottish and Welsh Advisory committees. Local education authorities were preparing and submitting their schemes under the act, and it was gratifying to note that many local authorities that had hitherto not accepted responsibility for a juvenile employment service now elected to do so. Many of them studied the methods employed by those local authorities who had long been administering this service, with a view to taking advantage of their experience. Among the various changes and adjustments there was one of nomenclature; in accordance with the terminology prescribed in the act, the old expression "juvenile" was discarded and the service became known as the youth employment service.

When the act was passed the Ministry of Labour issued a descriptive leaflet in which it summarized the aims of the youth employment service as follows: (a) to suggest types of employment to individual boys and girls that would provide the best opportunities for their capacities and interests; (b) to help them to find suitable openings; and (c) to keep in touch with them until they reached the age of 18. In the well established services this work was being done in many ways and with an agreeable absence of formality. The counter, aptly described in the Ince report as "a psychological barrier" lost its significance; and the relationship between adviser and applicant became intimate and human.

Although the act vested the minister of labour with substantial powers and provided, through the National Youth Employment council, for central planning and co-ordination, it operated locally through youth employment committees; and the function of the service was essentially advisory with

vocational guidance as its lynch-pin. Before World War II the dominating consideration in the juvenile employment service was "finding jobs," but when the prewar figure of 70,000 insured unemployed juveniles dropped to 7,000, the two crucial questions became those of guidance to the school-leaver selecting his employment and of helping hard-pressed industries to solve their labour problems. The needs of industry were to some extent met by the important provisions for training included in the act, and industrialists themselves were releasing more young workers every year for part-time technical education. It became more generally recognized that, if full employment continued, there would be a scarcity of juvenile labour for several years; and industry, guided by working party reports, faced up to the problem of how to make the best of the limited supply available. (W. O. L. S.)

United States. According to monthly estimates of the U.S. Bureau of the Census, 1,970,000 14- to 17-year-old boys and girls were employed full-time or part-time in April 1949. This was only a very slight decrease from the number in April 1948 (2,040,000). During school months in 1949 one out of every four boys and girls in the United States in this age group was employed.

Important amendments passed by Congress in 1949 to the 1938 child labour provisions of the Fair Labour Standards act—the Wage and Hour law—broadened them to protect children in the transport, communications and other interstate industries, and gave children employed in agricultural jobs the law's full protection during school hours for the district in which the child was living while he worked. For the first time an effective bar against agricultural employment which competed with schooling became possible.

Maine, Tennessee and Alaska materially strengthened their juvenile employment standards during 1949, so that 22 states, together with Puerto Rico and Alaska, now had a basic 16-year minimum age for employment. Tennessee set a minimum age for employment at any time in any manufacturing or mechanical establishment and in bowling alleys, and raised from 14 to 16 the minimum age for employment during school hours in any gainful employment except agricultural or domestic work. Maine set 16 as the minimum for employment at any time in any manufacturing or mechanical establishment and in bowling alleys, hotels and places of amusement. It retained 15 as the minimum for any work during school hours and set a minimum of 15 for employment at any time in stores and in catering establishments. Both states improved provisions with regard to the 18-year minimum age for hazardous occupations and hours of work standards. The new Alaska juvenile employment law established a 14-year minimum age for general employment outside school hours and, under authority of the act, the commissioner of labour set a minimum age of 16 in a number of occupations and a minimum of 18 for a considerable number of hazardous occupations. (E. S. J.)

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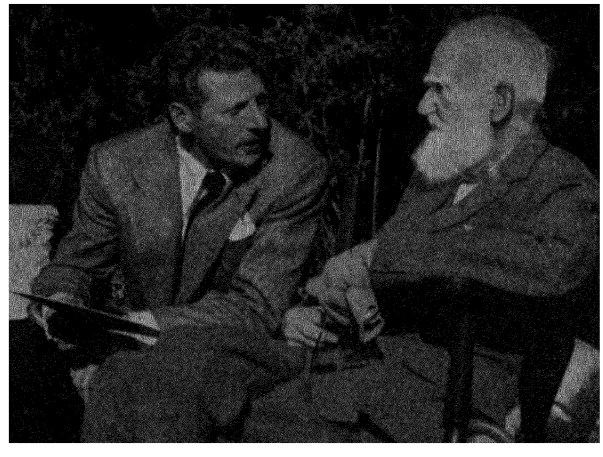
KARDELJ, EDVARD, Yugoslav politician (b. Ljubljana, Slovenia, Jan. 27, 1910). A teacher by profession, he was imprisoned for Communist activities from 1930-32. Upon release he fled to Moscow and from 1934-37 was professor of the history of the Communist movement at the University of Sverdlovsk (formerly Ekaterinburg). He returned to Yugoslavia before World War II and in the summer of 1941 helped to organize partisan resistance in Slovenia. In Nov. 1943 he was elected first vice president of the A.V.N.O.J. (Anti-Fascist Council of National Liberation of Yugoslavia). On March 7, 1945, he entered Tito's government as deputy prime minister and minister for the Constituent Assembly. He was also member of the executive committee of the People's Front of Yugoslavia and of the Politburo of the Yugoslav Communist party. At the end of Sept. 1947 he attended the meeting at Wilcza Góra, Poland, at which the Cominform was set up. On June 28, 1948, he was denounced by the Cominform but on Aug. 31 Tito appointed him foreign minister. He led the Yugoslav delegation to the 4th general assembly of the United Nations which, on Oct. 20, 1949, elected Yugoslavia as a non-permanent member of the Security council.

KAYE, DANNY (DAVID DANIEL KOMINSKY), U.S. entertainer (b. Brooklyn, New York, Jan. 18, 1913). At the age of ten he had acquired a facility at entertainment, especially through his expressive hands, his "mugging" (face-making) and his adoption of a peculiar half-singing, half-reciting style that eventually came to be known as "git-gat-gittle."

He attended a high school in New York and then became an entertainer at a summer camp in the Catskills near New York city. At the end of four seasons at the camp, punctuated



Danny Kaye with George Bernard Shaw during a visit to Ayot St. Lawrence, Hertfordshire, on May 3, 1949.

by winters during which he vainly sought theatrical work on Broadway, he joined a dancing team in vaudeville and was booked on a tour of Asia. On his return to the U.S. he spent some time as a night club entertainer, then was invited to a summer camp for actors near Stroudsburg, Pennsylvania, where he and Sylvia Fine (whom he married in 1940) developed his stage routines into *Straw Hat Revue* which moved to Broadway for a successful run. He began to star in night clubs and on the stage, among his featured roles being those in *Lady in the Dark* (1941) and *Let's Face It.* He won even greater fame in films such as *The Kid from Brooklyn* and *The Secret Lives of Walter Mitty.*

Kaye made his first appearance in Britain, almost unnoticed, in 1938. In both 1948 and 1949, however, he made successful tours of the United Kingdom. In 1948 he took part in a command performance; in 1949 his six-week run in London was sold out before it began.

KELLY, SIR DAVID VICTOR, British diplomat (b. Sept. 14, 1891), was educated at St. Paul's school and at Magdalen college, Oxford. He served in France during World War I and in 1919 entered the diplomatic service, subsequently serving in Buenos Aires, Lisbon, Mexico city, Brussels and Stockholm. After a period at the foreign office, 1931-34, he was in Cairo, 1934-38. In 1940 he was appointed

minister to Switzerland and on Jan. 1, 1942, was promoted ambassador to Argentina. In May 1946 he was transferred to Turkey and in 1949 succeeded Sir Maurice Peterson as ambassador to the Soviet Union. He arrived in Moscow on June 24 and on June 30 presented his letters of credence to Nikolay Shvernik, chairman of the praesidium of the Supreme Soviet. He was received by Joseph Stalin on July 18.

KENYA: *see* BRITISH EAST AFRICA.

KHURI, BISHARA KHALIL EL, Lebanese statesman (b. Rishmaya, Lebanon, 1890?), member of an ancient family of Christian (Maronite) Arabs, studied law at the French university at Beirut. (For his early career see *Britannica Book of the Year 1949.*)

On Sept. 21, 1943, he was elected president of the republic. On May 27, 1948, he was re-elected for a further six years, as from Oct. 1949, when his first term would have expired. On Sept. 21, 1949, he was sworn in for his second term. Speaking in Beirut on Oct. 1, he said in his second inaugural address that the Lebanon would endeavour to effect union among Arabs and would continue her adherence to the Arab League covenant. On the same day five opposition parties published a declaration that they considered President Khuri's second term "illegal."

KIM IR SUNG (KIM IL-SONG), Korean Communist leader (b. near Pyongang, 1913). Born as Kim Sing-choo, during World War II he adopted the name of a famous guerilla leader who was supposed to have died in action. Until 1945 he was at Yenan, seat of the Chinese Communist government, as secretary general of the Korean Communist party. After the occupation of northern Korea by the Soviet army he moved to Pyongyang where on Sept. 6, 1945, he was instrumental in proclaiming a people's republic. For the time being the Soviet authorities recognized his government only as the Korean People's Interim committee. Three years later, however, when the formation of a central Korean government under Communist control appeared remote, "elections" of a Supreme People's Assembly were held in northern Korea and a government of the Korean people's republic, with Kim Ir Sung as prime minister, was formed on Sept. 2, 1948. On March 17, 1949, in Moscow, he signed with Andrey Vyshinsky a 10-year agreement for economic and cultural co-operation.

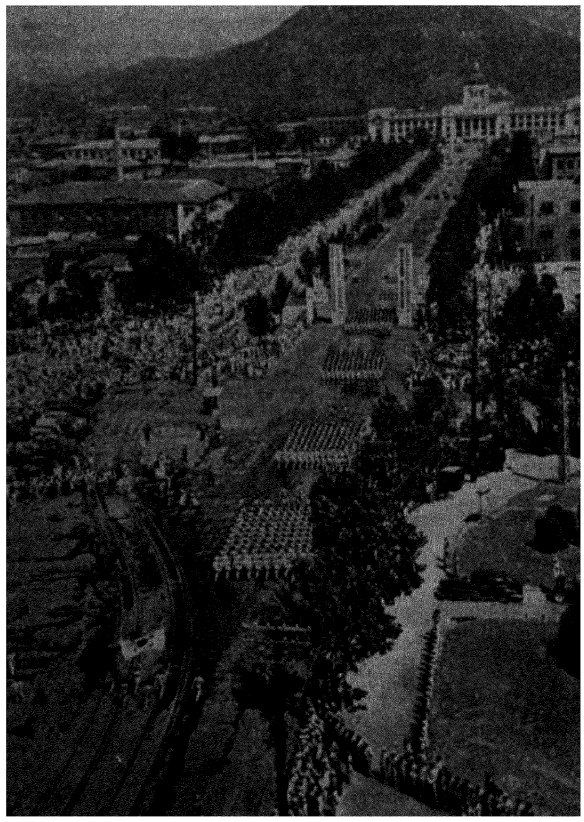
KOLAROV, VASIL, Bulgarian politician (b. Shumen, Bulgaria, July 16, 1877), teacher by profession, joined the Bulgarian Social Democratic party in 1897 and six years later was one of the organizers of its "narrow" or revolutionary wing. In 1913 he was elected deputy to the Bulgarian Sobranye, and again in 1920. When in 1919 the "narrow" Social Democrats re-organized themselves as the Bulgarian Workers' (Communist) party (Blgarska Rabotnicheska Partia), he became its secretary general. He attended all the Comintern congresses from 1920, two years later was elected a member of the executive committee and in 1926 became secretary general. In Sept. 1923 he was sent by the Kremlin to Bulgaria to organize with Gheorghi Dimitrov (*see* OBITUARIES) an uprising which, however, failed; escaping to Moscow, he remained there for more than two decades, becoming a Soviet citizen. He returned to Bulgaria in Sept. 1945. He was a member of both Sobranyes elected in Nov. 1945 and Oct. 1946. As provisional president of the republic (Sept. 1946-Dec. 1947), in Nov. 1946 he appointed his old friend Dimitrov prime minister, and in Dec. 1947 assumed the duties of minister of foreign affairs in the second Dimitrov cabinet. When Dimitrov died on July 2, 1949, Kolarov was neither among the few prominent Communists who went to Moscow to bring the body back to Sofia nor did he attend the burial ceremonies in the Bulgarian capital. On July 20 the Sobranye unanimously elected him prime minister and foreign minister but he was not present. On Aug. 6 the cabinet was reconstituted and Vladimir Poptomov succeeded Kolarov as foreign minister.

KOREA. A peninsula extending from Manchuria southward 600 mi. between the Yellow sea and the Sea of Japan; for 11 mi. it borders the U.S.S.R.; the rest of the boundary is with Manchuria. Total area: 85,225 sq. mi. Total pop. (1949 est.): 29,238,600. The 38th parallel N., chosen in 1945 to separate Soviet and U.S. forces accepting the surrender of Japanese troops, remained as the artificial but rigid division between Korean governments organized in each zone. The south has 44% of the area, but its population (Sept. 1949 est.) of 20,188,600 was more than twice that of the north (1949 est.: 9,050,000). Chief towns in the south (pop., May 1949 est.): Kyongsong or Seoul (cap., 1,446,049); Pusan (473,619); Taegu (313,705); Inchon (265,767). In the north: Pyongyang, the northern capital (pop., 1949 est., 450,000). Religions: Buddhism, Confucianism and a unique eclectic religion Chun-dyo-ko; in 1938 there were 500,000 Korean Christians. South Korea: president of the republic, Dr. Syngman Rhee (*q.v.*); prime minister, Lee Bum Suk. North Korea: chairman of the presidium of the Supreme People's assembly, Kim Du Bon; prime minister, Kim Ir Sung (*q.v.*).

History. During the year Korea continued to be a divided land. The 38th parallel, the boundary between the U.S.-aided Republic of Korea in the south and the Soviet-sponsored Democratic People's Republic of Korea in the north, was the scene of numerous border skirmishes. On Jan. 1, President Harry S. Truman announced formal recognition of the Republic of Korea by the United States; on Jan. 30 the first ambassador from the northern regime was received in the U.S.S.R. Both republics claimed suzerainty over all of Korea. The year was marked by solidification of the internal positions of each in their zones.

The Republic of Korea in the south, which is called Tai Han Min Guk (Great Han People's Country), had a tumultuous year. The National Assembly, for example, adopted on June 2 a resolution calling for dismissal of the entire cabinet; later five members of the assembly, who filed a petition with the U.N. Commission on Korea, were arrested on the order of President Syngman Rhee. Problems of local security made officials fearful and the police, organized on a national basis, were given wide powers which they exercised on occasion very harshly. A Korean army officer assassinated Kim Koo, former president of the Korean provisional government, a rightist who bitterly opposed the division of the country. Sporadic outbreaks occurred, possibly under instigation from organizers from the north, but these were quickly quelled. An important forward step was taken when an administration-sponsored land reform programme was enacted; this would enable over a million farmers to purchase their land from Korean landlords, following a pattern established by the American military authorities in distributing former Japanese-owned land. President Rhee, after a conference with Generalissimo Chiang Kai-shek (*q.v.*) on Aug. 7-8, issued an appeal for a Pacific pact for security purposes but it had lukewarm reception.

The U.S. army, which had occupied southern Korea after the surrender of Japan, was withdrawn during the first half of the year, the last troops embarking in July. Under treaty provisions a small group of 500 U.S. army officers and men remained to aid in the training of Korean security forces. American economic aid continued on a large scale and with strict American supervision. An E.C.A. programme calling



Soldiers of the Korean army march through Seoul, capital of South Korea, on Aug. 15, 1949, the first anniversary of the setting up of the Republic of Korea.

for $150 million expenditure was approved by the U.S. House of Representatives foreign affairs committee on June 30, but it did not pass the Senate until Oct. 12. Actual appropriation was not made by the end of the year, though some interim funds were provided.

The United Nations Commission on Korea remained in southern Korea during the year operating under some difficulties. It tried in vain to make contacts with the northern regime and to work toward a unification of the peninsula. In reporting its failures to the U.N. general assembly, it laid the blame on the world-wide antagonism between the Soviet Union and the United States. The chances for unification in Korea appeared to it to be more and more remote. However, it was instructed by an assembly vote of 44 to 6 on Oct. 3 to continue its efforts and to pay special attention to military developments in Korea which might lead to full-scale civil war. The Republic of Korea's appeal for membership of the U.N. was vetoed by the Soviet Union. The application of the Democratic People's Republic for membership was also rejected.

In the north, Soviet troops were withdrawn in the last week of 1948, thereby ending their occupation. A Korean-Soviet agreement for economic and cultural co-operation was signed in Moscow on March 17, during a visit of northern leaders, including Kim Ir Sung, the premier. The northern regime continued to use subversive and propaganda attacks on the south. Active fighting took place along the western part of the 38th parallel. The internal patterns of the north were developed along Communist lines with nationalization of banks, industry, transport and commerce. A two-year plan for the national economy for 1949-50 was published. It called for an increase in agricultural land sown, building of irrigation works, increase in grain production and in livestock.

The whole pattern of developments during 1949 thus showed a further widening of the cleavages between north and south Korea. The situation, especially along the 38th parallel, was grave. Both regimes were being bolstered by outside aid. Troops in the north were estimated at 200,000 men. In the north the Korean constabulary numbered about 60,000 and the army about 150,000. Though in both areas there was some increased economic development, the lot of the common man was insecure and unhappy.

Education. A group of U.S. educators worked with Korean teachers in south Korea in revising the rigid system which had been established by the Japanese. The mass teaching of *hankul*, the dialect script, was started after the war and the literacy rate was rapidly increasing; in the south the rate in 1949 was 66% of those over 13 years of age. In the north the claim was made that 1,740,000 pupils were enrolled in 4,327 primary and secondary schools and that 11 institutions of higher learning had been established.

Agriculture. Rice is the most important agricultural product; 1948 production in the south was estimated at 2·5 million metric tons. Other products were (in metric tons): barley (352,393), naked barley (212,780), wheat (89,912) and rye (18,896). Fish and marine products were estimated at 300,000 metric tons in 1948. Production of crops was aided by fertilizers imported with E.C.A. aid; 600,000 tons were imported in 1948-49.

Industry. Production goals for 1948 announced for manufacturing in the north were claimed to have been attained in 1949 (in metric tons): pig iron 9,000,000; chemical fertilizers 332,000; salt 150,000; rayon yarn 1,440. Communist officials made statements at the end of the year that showed that industrial production had evidently been lagging considerably. The north Korean action in cutting off the power supply normally furnished to the south seriously hampered manufacturing there. Industrial facilities in the south were mostly chemical plants, food processing and textile factories and light consumer-goods industries such as rubber shoes, bicycle tyres, etc. All of these were reported in 1949 to have had a considerable increase in production.

The major mineral resources are found in the north where iron, coal, gold and many other ore deposits were exploited by the Japanese. In the south anthracite coal production was limited. 714,150 tons were mined in 1948 and monthly production reached a peak of 97,918 tons in April 1949. Bituminous coal, mainly used for transport facilities, was imported from Japan (967,903 tons in 1948). In 1944 south Korea was the world's leading producer of graphite (103,000 metric tons); production in 1948 was one-seventh of that amount.

Foreign Trade. Trade on a barter basis between the north and south was stopped in the spring, though clandestine trade continued. In the south, foreign trade was largely restricted to essential imports of food, petroleum, fertilizers, coal and raw materials for industry.

Finance. In south Korea the value of the *won* maintained its low level of 1948; the official rate of exchange was U.S. $1=450 won; however, in Sept. 1949 curb rate was U.S. $1=1,900 won. Measures slowing down the rate of inflation were not effective: rice prices, for example, were nine times as high in Aug. 1949 as in Aug. 1945; cotton cloth prices were 100 times as high. The Bank of Korea note issue used in the south increased from 8,700 million won in Sept. 1945 to 49,100 million in Sept. 1949. The 1949-50 budget in the south called for 57,322 million won for general expenditures and 166,111 million for special expenditures. In the north the figure was 19,763 million won for general expenditures, an increase of 45% over the year before.

(S. McC.)

KUWAIT: *see* ARABIA.

LABOUR PARTY: *see* POLITICAL PARTIES, BRITISH.

LABOUR UNIONS: *see* TRADE UNIONS.

LABRADOR: *see* CANADA; NEWFOUNDLAND AND LABRADOR.

LABUAN: *see* NORTH BORNEO.

LACROSSE. In England, 1949 saw recruitment to old clubs, new ones founded and expansion in public interest in men's lacrosse. The annual North *v.* South match at Lord's was the best for many years; a splendid struggle resulted in a draw. Cambridge won the annual university match against Oxford. A new high level was reached in the United States; more universities, colleges and schools were playing the

game than ever before. A successful North *v.* South game at Troy, New York, resulted, for the first time since 1943, in a win for the South. The U.S. navy and John Hopkins university were awarded co-possession of the United States intercollegiate championship. Expansion was handicapped in Australia by lack of equipment due to the dollar shortage. There was a successful season throughout the continent.

Popularity of women's lacrosse in England continued unabated, a record number of colleges, schools and clubs being affiliated to the All England Ladies' Lacrosse association At the invitation of the United States Ladies' Lacrosse association an All England team toured the U.S A during March and April. They won all their matches including a final game against an All American ladies' team in New York.

(G. H. BA.)

LANGE, HALVARD MANTHEY, Norwegian statesman (b. Oslo, Sept. 16, 1902), son of Christian Lous Lange (1869-1938). His father was for a quarter of a century secretary general of the Inter-Parliamentary union and in 1921 was awarded the Nobel Peace prize. Educated at the universities of Oslo and Geneva and the London School of Economics, Halvard Lange taught economic history at the Oslo High School of Commerce (1930-35), was lecturer in modern history at the University of Oslo (1935-38) and rector of the Norwegian Central Trade Union college (1938-40). He joined the Norwegian Arbeiderpartiet (Labour party) in 1929 and was a member of its executive committee 1933-39 and again from 1945. He was imprisoned by the Gestapo Aug. 1940-June 1941 and Aug. 1942-May 1945. On Feb. 1, 1946, he succeeded Trygve H. Lie (*q.v.*) as minister of foreign affairs in the cabinet of Einar Gerhardsen (*q.v.*), his prison friend. In the crucial first three months of 1949 his beliefs and determination were an important factor contributing to Norway's defiance of the Soviet interdict, abandonment of neutrality and adherence to the North Atlantic treaty (*q v.*).

LAOS: *see* FRENCH UNION.

LATTRE DE TASSIGNY, JEAN-JOSEPH-MARIE-GABRIEL DE, French army officer (b. Mouilleron-en-Pareds, Vendée, Feb. 2, 1889). A graduate of Saint-Cyr, he saw action in World War I and as a captain began service in 1921 in Morocco, where he was wounded in the Rif campaign in 1925. In 1929 he was called to the general staff; by 1939 he was the youngest general in the French army. In May 1940 he commanded the 14th Infantry division which fought around Rethel. On Aug. 27, 1941, he was appointed c.-in-c. in Tunisia but in 1942 was recalled to France to command at Montpellier one of the seven divisions of the "armistice army." When the Germans, on Nov. 11, 1942, took over the "free zone," he attempted to resist. For his defiance of Vichy's orders he was sentenced on Jan. 9, 1943, to 10 years' imprisonment at Riom but nine months later escaped and made his way to London. He took over the French First army which landed at Saint-Tropez on Aug. 16, 1944. Advancing up the Rhone valley, he crossed the Rhine, entered the upper Danube valley and brought his troops to the Tirol. On May 8, 1945, in Berlin, he signed for France the final act of German capitulation and, on June 5, the four-power Berlin declaration under which the Allies assumed supreme authority in Germany. On July 25 he was appointed inspector general of the French army and revolutionized the training of conscripts by increasing the proportion of time spent on active training under field conditions. On Oct. 4, 1948, he was appointed c.-in-c., land forces, Western Europe, under Field Marshal Viscount Montgomery of Alamein, military chairman of the commanders in chief committee, with headquarters at Fontainebleau.

LATVIA. From Jan. 18, 1919, to Aug, 5, 1940, when it was annexed by the U.S.S R , Latvia was an independent republic. The British, U.S. and many other governments, however, had not granted *de jure* recognition to this annexation. Area: 25,395 sq. mi. Pop.: (Jan 1939 est.) 1,994,500, (Jan. 1946 est.) 1,650,000. The reduction is explained by the evacuation of the German minority (*c.* 50,000) in 1939–40, by Soviet deportations in 1940 -41 (*c.* 34,000), by the murder by the Germans of some 90,000 Jews, by the fact that about 65,000 Latvians fled to Germany when the Soviet armies returned and by a second wave of Soviet deportations in 1945 (about 105,000). Chief towns: Riga (cap., pop., 1939 est., 393,210); Liepaja (1935 census, 57,098); Daugavpils (1935, 45,160) Chairman of the presidium of the Supreme Soviet of the Latvian S S.R., August M. Kirchensteins; chairman of the Council of Ministers, Vilis T. Lacis.

History. At the congress of the Latvian Communist party in Jan. 1949, J. E. Kalnberzins and P. Litvinov, secretaries general, reported that the party had 31,203 members and candidates, 55% being civil servants, 38% workers and 7% peasants. Of the 69 members elected to the central committee 30 had Russian names and among the 13 high dignitaries of the party only 5 were Latvians

Many speakers at the congress emphasized that the total population of Latvia was over two million, which would suggest that by then the Russians numbered over 350,000. Latvians who escaped to Sweden in March reported that a new wave of deportation was in progress according to a plan prepared by S. N. Kruglov, Soviet minister of home affairs (M.V.D.), and V. S. Abakumov, Soviet minister of state security (M.G.B.) and director of all Soviet camps of forced labour. This plan concerned not only Latvia, but also Estonia and Lithuania (*qq.v.*). Persons selected for deportation included political prisoners under investigation or arrest; families of persons accused of espionage, participation in the underground movement and contacts with foreign countries, former professional soldiers, officers and non-commissioned officers, with families; former civil servants; former teachers and professors with families; priests and members of religious organizations; and members of the free professions with families. Altogether about 70,000 were said to have been deported from Latvia. In August Major General Alfons A. Noviks, Latvian minister of state security, and Major General August P. Eglits, Latvian minister of home affairs, were awarded the Order of the Red Banner "for the successful execution of a special assignment of the government of the U.S.S.R." (*Izvestia*, Aug. 25, 1949).

Contrary to Soviet promises in 1944, on the eve of the second occupation, collectivization was enforced during 1949 with ruthless determination. In the spring of 1947 there were only four *kolkhozes* (collective farms); a year later their number had increased to 189, and on July 21, 1949, V. T. Lacis announced that there were 3,879 *kolkhozes*, embracing four-fifths of the arable land. But the sowed area in the spring of 1949 amounted to only 1·9 million hectares against 2,239,000 hectares in 1939, and milch cows numbered 380,000 against 890,200 in 1939.

The number of industrial workers in 1949 was 118,000—one-fifth more than in 1938. According to an article by J. E Kalnberzins, about 5,000 Russian technicians—one-fourth of the total—helped to manage Latvian industries. F. Dalgavs, chairman of the State Planning commission, reported that by April 1949 only about 1,500 industrial plants had been rehabilitated—one-fourth of the plants which existed in Latvia in 1939. Nevertheless, on Nov. 6, 1949, Kalnberzins and Lacis reported in a telegram to Stalin that the total industrial production was double what it had been in 1940.

Education. According to V. T. Lacis, the total number of pupils in all schools in 1949 was 40,000 more than in *bourgeois* Latvia. (In 1939

there were 1,895 elementary schools with 229,825 pupils and 114 secondary schools with 25,225 pupils.)

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LAW AND LEGISLATION. Public Law in Europe and the Commonwealth. In this field the most important developments of 1949 were the adoption by the Parliamentary Council of the basic law for the federal republic of Germany, and by the Constituent Assembly of India of a constitution based on a draft prepared by its drafting committee under the chairmanship of Dr. B. R. Ambedkhar, together with the finding and acceptance by the Commonwealth conference of the ingenious formula whereby India, although proclaiming her intention of being "a sovereign independent republic" yet remained within the Commonwealth with its "common allegiance to the crown." In Israel, the adoption of a draft constitution was being debated; and, in Pakistan, an agenda was being debated for a conference to establish a constitution.

The basic law for Western Germany was, as its full title implies, founded on a division between the federation on the one hand and the provinces, or *Länder*, on the other. In its preamble it declared that "Conscious of its responsibility before God and mankind . . . the German people" in certain specified provinces "has, by virtue of its constituent power, enacted this basic law of the federal republic of Germany to give a new order to political life for a transitional period." The preamble claimed, significantly, that the German people had thus acted on behalf of those Germans; *i.e.*, in the Soviet zone, to whom participation was denied and it proclaimed that "The entire German people is called upon to accomplish . . . the unity and freedom of Germany." The first section of the basic law enumerated a number of basic rights. These ranged from such general statements as that "The dignity of man shall be inviolable" (art. 1) and "Everyone shall have the right to the free development of his personality" (art. 2) to relatively precise statements such as that "Secrecy of the mail . . . shall be inviolable. Restrictions may be ordered only on the basis of a law" (art. 10) and "The dwelling shall be inviolable. Searches may be ordered only by a judge or, in the event of imminent danger, by other authorities provided by law" (art. 13). In their affirmation of equality before the law, freedom of expression of opinion and freedom of assembly, and in their insistence on the sanctity of the family, these articles expressed a reaction against totalitarian ideas which was the most significant feature of this section. In art. 14 and 15 there was, too, an interesting statement of a compromise between individualist and socialist ideas: art. 14 stated that, subject to certain limitations, "Property and the right of inheritance shall be guaranteed," whereas art. 15 provided that "Land and landed property, natural resources and means of production may, for the purpose of socialization, be transferred to public ownership . . . by way of a law which shall regulate the nature and extent of compensation."

Section II regulated relations between the federation and the *Lander*. It declared that Germany was a democratic and social federal state; it gave the federation power, by legislation, to transfer sovereign powers to international institutions; it provided (art. 28) that "The constitutional order in the *Länder* must conform to the principles of the republican, democratic and social state based on the rule of law . . . In the *Lander*, *Kreise* and *Gemeinden* the people must have a representative assembly resulting from universal, direct, free, equal and secret elections" and (art. 31) that "Federal law shall supersede *Land* law": which presumably meant that in the event of conflict or mutual repugnancy federal law should prevail. Section III regulated the composition, powers, and duties of the Bundestag: its first clause was particularly important, namely that "The deputies of the German Bundestag shall be elected by the people in universal, free, equal, direct and secret elections. They shall be representatives of the whole people, not bound to orders and instructions and subject only to their conscience." Section IV provided similarly for the Bundesrat, through which the *Länder* participate in the legislation and administration of the federation. Each *Land* has between three and five votes in the Bundesrat, according to its population, and its votes are given as block votes, the members being members of the governments of the *Länder* which appoint and recall them. Section V provided for the election, by the federal convention as there defined, of the federal president and prescribed his term of office, powers and duties. Section VI dealt with the federal government, and provided that the federal chancellor should be elected, without discussion, by the Bundestag on the proposal of the federal president. Federal ministers were to be appointed and dismissed by the federal president upon the proposal of the federal chancellor. The Bundestag might express its lack of confidence in the federal chancellor only by electing a successor with a majority of its members and submitting a request for the chancellor's dismissal to the president.

Section VII covered legislation. It provided that the *Länder* should have the right of legislation in so far as the basic law did not accord legislative powers to the federation; and then defined two categories of subject, in respect of the first of which the federation had the exclusive right of legislation and in respect of the second of which there was a concurrent right of legislation to be exercised by the federation only when the regulation of the matter by a *Land* law would not be effectual, or could prejudice the interests of other *Länder* or of the *Lander* as a whole, or where the preservation of legal or economic unity demanded federal intervention. Federal legislation is normally passed by the Bundestag subject to a limited power of veto by the Bundesrat. Art. 81 made a curious provision for the enactment of legislation in the teeth of opposition by the Bundestag, should the Bundesrat approve it and the federal president declare a "legislative emergency." Of the remaining sections, it is possible to mention only that which dealt with the administration of justice. Section IX provided for a Federal Constitutional Court, a Supreme Federal Court, federal courts and the courts of the *Länder*. The Constitutional Court was to interpret the basic law, adjudicate questions relating to the compatibility of federal or land law with the basic law, and other public law disputes between the federation and a *Land* or between different *Länder*.

The constitution of India, due to come into force in Jan. 1950, presented certain points of resemblance with the basic law for the federal republic of Germany; but the problem with which it had to deal was in its nature and its history even more complex than that of a constitution for Germany.

A preamble declared the resolve of the people of India to constitute India into a sovereign democratic republic and to secure for all its citizens justice, liberty, equality and fraternity as there defined. Part I provided that India should be a union of the states specified in the first schedule, comprising the former governors' provinces, the former chief commissioners' provinces, and the former Indian states, parliament having the power to add to their number or to alter their boundaries. Part II dealt with the complex problem of citizenship, which it conferred on (a) every person who or either of whose parents or any of whose grandparents was born in the territory of India and who had not made his or her permanent abode in any foreign state after April 1, 1947 —a provision which would seem to raise immediately the question whether a country in the Commonwealth is a

ABAD (DECCAN).



Mrs. Helena Florence Normanton (left) and Miss Rose Heilbron at the House of Lords, April 26, 1949, when they were sworn in as King's Counsel—the first two women in England to take silk. Mrs. Normanton was also the first woman to practise at the bar, 1922.

" foreign state "; and (b) every person who had his domicile in the territory of India. There was a proviso that such a person must not have acquired the citizenship of any foreign state before the date of commencement of the constitution.

Part III dealt with fundamental rights. Included in these were rights of equality, such as the prohibition of discrimination on grounds of religion, race, caste, or sex, equality of opportunity in matters of public employment, the abolition of untouchability, freedom of speech and the prohibition of the employment of children under 14 in factories, mines or any other hazardous employment; rights relating to religion, affirming that all persons were equally entitled to freedom of conscience and the right freely to profess, practise and propagate religion; and rights to constitutional remedies, that is, to move the Supreme Court for the enforcement of rights provided by the constitution. Part IV had the unusual title of " Directive Principles of State Policy." These included (art. 31) the imposition on the state of the duty of ensuring that its citizens had adequate means of livelihood; that control of the material resources of the community should be directed to serve the common good; and that there should be equal pay for equal work for both men and women.

Part V was entitled " The Union." It provided, among other things, for the election of a president by a college consisting of elected members of both houses of parliament and of elected members of the legislatures of the states for a term of five years and of a vice-president who is *ex-officio* chairman of the Council of States. All executive business was to be done by members of the Council of Ministers in the president's name. This same part provided for a parliament of two houses: the Council of States, with 250 members, 15 nominated by the president, the rest representatives of the states; and the House of the People, with not more than 500 members directly elected by the voters. The council was not to be subject to dissolution but a third of its members were to retire on the expiration of every second year; the house was to have a term of five years unless it was first dissolved. The council might not interfere with money bills but other differences were to be resolved by joint sittings. Provision was also made for the president to have certain emergency legislative powers; and for a federal judicature, with a Supreme Court adjudicating both on constitutional and other issues more closely modelled on the United States than on the German system, in which, as seen above, the Constitutional Court was distinct from the Supreme Court. Part IX was the next part of general importance, and provided for relations between the union and the states. Parliament was to have exclusive power with respect to matters enumerated in list I in the seventh schedule; the state legislatures were to have exclusive powers over matters set out in list II; and list III enumerated powers held concurrently.

Such were some of the most important provisions of the constitution of India. There remained to be considered India's status within the Commonwealth. Nearly all the formal links, including the right of appeal to the Privy Council, were broken; India was a " sovereign independent republic " but she contrived to remain a full member of the Commonwealth. To quote the official announcement made

by Herbert Morrison in the House of Commons on April 28, 1949 : " The government of India have . . . declared and affirmed India's desire to continue her full membership of the Commonwealth of Nations and her acceptance of the King as the symbol of the free association of its member nations and as such the head of the Commonwealth."

United Kingdom Case Law. Consideration is given below to cases of exceptional public interest and to litigation that resulted in the superior courts revising or modifying doctrines that were applied by the courts below; to cases that appear to have arisen from, and to throw light upon, novel developments in social or economic life; and to one or two decisions which, however unexceptionable in law, appear to have raised difficult problems in the spheres of ethics, morality or conscience.

Of the litigation of the first of the above categories, namely that of exceptional public interest, the outstanding example was *The Commonwealth of Australia and Others v. The Bank of New South Wales and Others* (decision reported in *The Times*, Oct. 27, 1949). This was an appeal—or rather it was a consolidation of five appeals—to the Judicial Committee of the Privy Council from a majority decision of the High Court of Australia. It arose out of section 46 of the Banking act, 1947, part of which stated that " a private bank shall not, after the commencement of this act, carry on banking business in Australia except as required by this act," and the effect of which was to nationalize banking in Australia. The High Court of Australia held that this section contravened section 92 of the constitution of the Commonwealth of Australia, which provided that " trade, commerce and intercourse among the states . . . shall be absolutely free." The Privy Council, although affirming the High Court of Australia's decision on this point, decided the appeal in favour of the respondents on a preliminary point, namely that for an appeal to lie in a matter of this sort a certificate of the High Court was required. The duration of this appeal, namely 36 days, constituted a record, at least for the Privy Council.

Two other cases that deserve mention in this category are *Krajina v. Tass Agency* (1949 2 All England reports 274) and *Tamlin v. Hannaford* (1949 2 All England reports 327). In the former the Court of Appeal affirmed the decision of a judge and a master setting aside service of a writ for an alleged libel published by the agency on the ground that it was an organ of the government of the U.S.S.R. and as such entitled to sovereign immunity from the process of the English Court. In the latter it was held that the British Transport commission was not a servant or agent of the crown, and its property was therefore as much subject to the Rent Restriction acts as the property of any other owner.

Of the second category of litigation, namely, that which resulted in a superior court revising a doctrine laid down by a lower court, and long accepted as good law, the most important example in 1949 was *Hill v. William Hill (Park Lane) Ltd.* (1949 2 A.E.R. 452). In this case the appellant had agreed to pay the amount of a bet he had lost in consideration of the bookmakers to whom he was to pay it refraining from reporting him to Tattersalls for non-payment. A majority of the House of Lords, over-ruling the decision of the Court of Appeal in the well-known case of *Hyams v. Stuart King* (1908 2 K.B. 696) held that the appellant's promise was to pay money won upon a wager within section 18 of the Gaming act, 1845, and the contract was therefore unenforceable.

R.E.L. v. E.L. (1949 Probate division 211) was an example of the third category of case, arising from, and throwing light upon, a novel social development. It was there held that the fact that a wife petitioner had been artificially inseminated with her husband's seed was no bar to her obtaining a decree of nullity on the ground of his incapacity.

The fourth class of case, where there appeared to be some question of a clash between good law on the one hand and good ethics or good sense was, in the view of some, exemplified by the decision of the House of Lords, affirming that of the Court of Appeal, in *Gilmour v. Coats and Others* (1949 Appeal cases 426). Following a long line of authority in charity cases, it was held that the necessary element of public benefit was lacking in a gift made to cloistered nuns in the belief that their prayers would benefit the world at large; and that the necessary element of public benefit being lacking the gift was not a valid charitable trust. This state of the law was held by some to impose a restriction on one kind of charity that did not well accord with the liberal interpretation of the rules respecting charities where animals were concerned, although here too, of course, the consideration of public benefit was paramount.

United Kingdom Legislation. The chief feature of United Kingdom legislation in 1949 was that, with the enactment of the main social security measures constituting the pillars of what is called the welfare state and all the nationalization measures that formed part of the government's programme, except the Iron and Steel bill, interest centred on legislative measures less ambitious in their scope. Meanwhile, the Iron and Steel bill and the Parliament bill (whose main provision was to reduce the term wherein the House of Lords' veto over legislation passed by the House of Commons remained operative) passed between the House of Lords and the House of Commons in accordance with the procedure laid down by the Parliament act, 1911, the two houses having failed to reach agreement on either measure until, in November, a compromise was accepted in relation to the Iron and Steel bill.

Of measures of a constitutional character, the three most important were the British North America act, the Ireland act and the Juries act. The first of these gave effect to the union of Newfoundland with Canada on the basis of the former's becoming a province of the latter. The second declared that, in accordance with Irish wishes and law, the part of Ireland known as Eire ceased, as from April 18, 1949, to be part of the Commonwealth; it proceeded to declare that Northern Ireland remained part of the King's dominions and of the United Kingdom and to affirm that in no event would Northern Ireland or any part thereof cease to be part of the Commonwealth without the consent of the parliament of Northern Ireland—a provision which gave rise to a great deal of controversy in Ireland and, to some extent, in the United Kingdom parliament. Its later sections provided a legal puzzle by declaring that the republic of Ireland was not a foreign country and that the British Nationality act was not affected by the fact that the republic of Ireland was not part of the Commonwealth. The Juries act made provision for the payment to jurors of subsistence and travelling allowances and of a modest compensation for loss of earnings and abolished special juries except City of London special juries in commercial cases.

Of a number of measures of a social character the most important was the Legal Aid and Advice act. Part I of this act provided for a new social service by enabling the cost of legal aid and advice to be defrayed wholly (below a certain income limit) or partly (below a higher income limit) out of moneys provided by parliament in civil matters or proceedings, the scheme being administered by the legal profession itself. Part II provided for improved assistance in criminal proceedings. The operation of Part I was partially, and that of Part II wholly, deferred for economic reasons. The legal Aid and Solicitors (Scotland) act, made broadly similar provision for Scotland. (W. T. Ws.)

United States. *Administrative Law.* The Supreme Court ruled that the right to argue orally before an administrative

agency is not an inherent part of due process. The Federal Communications commission was justified in refusing to hear oral arguments in support of a petition which was considered insufficient to raise a legal issue (*FCC* v. *WJR*, 337 U.S. 265). The court also declined to disturb an order of the National Labour Relations board merely because the trial examiner had uniformly credited the board's witnesses and discredited those of the employer. This in itself did not indicate bias, nor did the record of the hearing disclose any (*NLRB* v. *Pittsburgh S.S. Co.*, 337 U.S. 656). But agencies had carefully to follow prescribed procedures, the court said. An immigrant might not be barred from entering the U.S. because of mental illness unless such a finding was made after strict compliance with Public Health service regulations (*U.S.* v. *Shaughnessy*, 336 U.S. 806).

The Supreme Court also gave rulings on the jurisdiction and powers of state and federal agencies in several cases. A Californian travel bureau had been convicted of violating a state statute prohibiting the operation of transport over state highways by carriers who did not hold permits from the Interstate Commerce commission. The travel bureau ingeniously contended that the state law was invalid because it conflicted with the jurisdiction of the commission conferred upon it by congress under the Motor Carrier act. But the Supreme Court rejected this view. The fact that a state law coincided with a federal law did not render it invalid unless congress had clearly shown the intention of giving exclusive jurisdiction to the federal agency (*California* v. *Zook*, 336 U.S. 725). Such exclusive jurisdiction was conferred by congress upon the National Labour Relations board in the matter of certifying the representatives of employees for "collective bargaining" in an interstate industry, according to the Supreme Court, which set aside the certification of a union by the Wisconsin Employment Relations board. Even though the national agency had not assumed jurisdiction, the state board's action was invalid unless and until the national board expressly ceded its jurisdiction (*La Crosse Tel. Co.* v. *Wis. ERB*, 336 U.S. 18).

Aliens and Citizenship. The high court reversed a district court judgment denaturalizing August Klapprott, former German-American Bund leader. He had not been given a reasonable opportunity to be heard, the court said. At the time when the denaturalization case came up, he had been ill, impoverished and a prisoner in gaol awaiting trial on charges that were later dropped; and he had not been represented by counsel (*Klapprott* v. *U.S.*, 335 U.S. 601). The Supreme Court also gave a second chance to an immigrant who had been barred from the U.S. as a mental defective because the report of a medical board did not show that its conclusions were based "upon its medical examination of the alien," as required by Public Health service regulations (*U.S.* v. *Shaughnessy*, 336 U.S. 806).

Armed Forces. The Supreme Court considered the jurisdiction and powers of courts-martial in three cases arising out of World War II. The justices all agreed that a naval court-martial did not have the right to try a serviceman for offences committed during a previous period of service. A petty officer, who had re-joined the navy on the day after his honourable discharge, was convicted by a navy court of beating two fellow war prisoners in a Japanese camp in the Philippines. His sentence was set aside as illegal because the navy had lost jurisdiction to try such offences after his discharge (*U.S. ex rel. Hirschberg* v. *Cooke*, 336 U.S. 210).

The Supreme Court opened the federal courts to suits by service personnel against the United States under the Tort Claims act for injuries not arising out of their service. Suit was properly brought in a district court to recover damages for the death of one serviceman and injuries to another when the private car in which they were riding was struck by an army truck. Membership in the armed forces did not bar their right of action (*Brooks* v. *U.S.*, 335 U.S. 901).

Civil Rights. A five-to-four decision of the Supreme Court again illustrated the difficulty of drawing a legal line between the use and abuse of free speech. The court reversed the conviction of Rev. Arthur Terminiello for violating a Chicago ordinance which defines disorderly conduct as including activities which tend to a breach of the peace The defendant had spoken at a meeting sponsored by Gerald L. K. Smith. He denounced Communists, Russians, Mrs. Eleanor Roosevelt, Henry Wallace and the Morgenthau plan, while praising Franco. A mob of hecklers demonstrated outside the meeting hall, and the defendant was arrested for having stirred up the disturbance through his speech. The trial court ruled that any misbehaviour which stirred the public to anger, invited dispute, brought about a condition of unrest or created a disturbance might be a breach of the peace. But a majority of the Supreme Court disagreed. Justice Douglas said that speech was often provocative and challenging, but that freedom of speech, though not absolute, was nevertheless protected against censorship or punishment, unless shown likely to produce a clear and present danger of a serious substantive evil (*Terminiello* v. *Chicago*, 335 U.S. 890).

Criminal Law. Eleven American Communist party leaders were convicted of conspiring to advocate the overthrow of the U.S. government by force in violation of the sedition provisions of the Alien Registration act of 1940. The record of the trial, which lasted nine months, ran to more than 5 million words. Judge Harold Medina not only imposed prison sentences and fines upon the defendants but held their lawyers guilty of contempt of court for persistently obstructive tactics during the trial. Among the important issues to be determined on appeal were the constitutionality of peacetime sedition laws; whether the judge should have instructed the jury to apply the "clear and present danger" test to the defendants' activities; and the leeway to be allowed defence counsel in such trials.

A concurring opinion by Justice Jackson in the reversal of a conviction for conspiracy to violate the Mann act promised to become important when the sedition conspiracy case against the eleven communist leaders reached the Supreme Court on appeal. Loose practice in the use of conspiracy charges, he said, "constitutes a serious threat to fairness in the administration of justice" (*Krulewitch* v. *U.S.*, 336 U.S. 440).

The first trial of Alger Hiss, former state department official, charged with committing perjury before a grand jury, petered out when the jurors failed to agree. The case arose out of charges made by Whittaker Chambers, formerly a senior editor of *Time* magazine, before the House of Representatives committee on un-American activities, that Hiss had given him copies of secret documents in 1938, to be turned over to Russian agents. Hiss countered by suing Chambers for defamation, whereupon Chambers produced microfilms of papers alleged to have been handed out by Hiss, who was then indicted for perjury in denying complicity with Chambers in his confessed spy activities. On his second trial, which lasted beyond the year's end, Hiss was found guilty.

In other cases arising out of hearings before the committee on un-American activities, circuit courts upheld convictions of contempt of congress against witnesses who had refused to state whether or not they were members of the Communist party. The Supreme Court dodged one aspect of this issue by dismissing the appeal of Gerhart Eisler, German-born Communist, from a contempt sentence for refusing to testify before that committee. The case was moot, the court said, because Eisler had fled from the U.S. to escape the consequences of this and another criminal conviction (*Eisler* v. *U.S.*, 338 U.S. 189).

The federal government was unsuccessful in its effort to justify the use of evidence taken from a defendant's hotel room during an illegal search by local police. Even though the search had not been made upon the instigation of the federal agent, the evidence was still tainted with illegality (*Lustig* v. *U.S.*, 338 U.S. 74).

In three cases the Supreme Court reversed convictions by the courts of South Carolina, Pennsylvania and Indiana which were based upon confessions obtained after long and continuous grilling of the defendants (*Harris* v. *S.C.*, 338 U.S. 68; *Turner* v. *Pennsylvania*, 338 U.S. 62; *Watts* v. *Indiana*, 338 U.S. 49).

Labour. Organized labour lost substantial ground under the impact of adverse court decisions. In two sweeping opinions by Justice Black the Supreme Court rejected union attacks on state anti-closed shop laws. The court ruled that the "right to work" amendments to the constitutions of Arizona and Nebraska and a North Carolina statute making it unlawful to deny employment to any person because he was or was not a member of a labour organization did not violate the federal constitution. State laws prohibiting discrimination between union members and non-members did not impair the obligation of contracts nor deny free speech, free assembly, due process or the equal protection of the laws (*Lincoln F. L. U.* v. *N. W. I. & M. Co.*, 335 U.S. 525; *A.F.L.* v. *Am. S. & D. Co.*, 335 U.S. 538).

Labour scored in two cases before the Supreme Court involving unfair practices. A National Labour Relations board order directing a North Carolina cotton mill to permit the use of a company owned meeting hall in a company controlled town for union organization meetings was sustained (*NLRB* v. *Stowe Spinning Co.*, 336 U.S. 226), as was also an N.L.R.B. ruling that it was unfair for an employer to put into effect a general wage increase substantially greater than that offered to union representatives during negotiations which had reached an impasse (*NLRB* v. *Crompton-Highland Mills*, 337 U.S. 217). In a third case, however, the N.L.R.B. was told it had erred in finding an employer guilty of unfair practices when he discharged employees on demand of a union which had expelled them from membership because they had been active on behalf of a rival union. The employer was carrying out the terms of a closed shop contract (*Colgate Co.* v. *NLRB*, 338 U.S. 355).

Taxation. The Supreme Court told the tax court to take a broader view in considering the status of family partnerships for income tax purposes. The tax court had ruled that the entire income from a cattle business run by a Texas rancher and his four sons as partners was taxable solely to the father. In so holding, the tax court had said that division of income among partners should not be recognized as valid unless each partner contributed "vital services" or "original capital" to the common business, phrases which the tax court had culled from the 1946 opinions of the supreme court in the *Tower* and *Lusthaus* cases. This was a misconstruction of those decisions, said the supreme court. The concept of a partnership for tax purposes was the same as the common law concept, namely, that the partners really intend "to join together for the purpose of carrying on business and sharing in the profits or losses or both" (*Comm'r* v. *Culbertson*, 337 U.S. 733).

The Supreme Court maintained its liberal attitude toward state taxation alleged to be in conflict with the federal constitution. In two opinions the court held that state and local governments could legally tax property intended for exportation as long as it had not entered "the export stream." The export-import clause of the federal constitution conferred immunity from local taxation only upon property actually in the process of being exported. Thus gasoline held in storage for 15 months at Dearborn, Michigan, in tanks marked "For Export Only" was held subject to a city *ad valorem* tax (*Joy Oil Co.* v. *State Tax Comm.*, 337 U.S. 286). A cement plant bought by a foreign company for dismantling and shipment to South America remained subject to local property taxes until the dismantled parts were delivered to a carrier for shipment. Intent to export was not enough to bring property within the constitutional immunity (*Empresa* v. *Merced*, 337 U.S. 154). (M. DN.)

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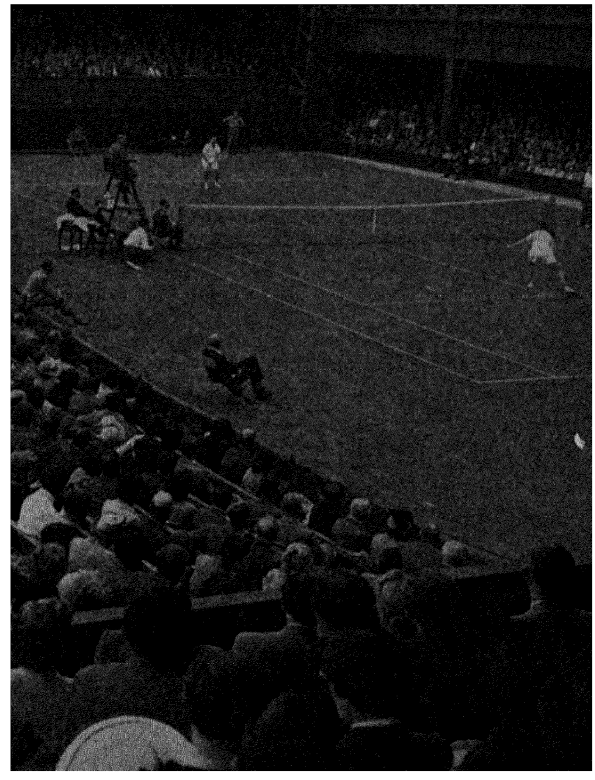
LAWN TENNIS. The U.S.A. once again swept the board in the international lawn tennis season of 1949. They won the challenge round of the Davis cup against Australia by four matches to one, winning the four singles but losing the doubles match, and they won the U.S.A. *v.* Great Britain international women's match for the Wightman cup by five matches to nil. They won also the men's and women's singles championships at Wimbledon, in Paris (French championships) and at Forest Hills (American championships), and won the women's singles in the Australian championships, none of their leading players competing in the men's singles.

LAWN TENNIS AMATEUR WORLD RANKING (FIRST TEN), 1949

Men	Women
1. F. R. Schroeder (U.S.A.)	1. Mrs. W. Dupont (U.S.A.)
2. W. F. Talbert (U.S.A.)	2. Miss L. Brough (U.S.A.)
3. F. Sedgman (Australia)	3. Miss D. Hart (U.S.A.)
4. E. W. Sturgess (S.A.)	4. Mrs. M. W. Bolton (Australia)
5. J. Drobny (Czechoslovakia)	5. Mrs. P. C. Todd (U.S.A.)
6. B. Patty (U.S.A.)	6. Mrs. B. E. Hilton (G.B.)
7. G. Mulloy (U.S.A.)	7. Mrs. S. P. Summers (S.A.)
8. O. W. Sidwell (Australia)	8. Mrs. A. Bossi (Italy)
9. E. Cochell (U.S.A.)	9. Miss J. Curry (G.B.)
10. G. E. Brown (Australia)	10. Mrs. J. J. Walker-Smith (G.B.)



G. L. Paish (Great Britain) and V. Černik (Czechoslovakia) in the second round of the European zone of the Davis Cup at Wimbledon, May 1949.

The outstanding men's singles players of the year were F. R. Schroeder, who won the English men's singles championship at Wimbledon at his first attempt, and R. Gonzales, who retained the American championship, beating Schroeder in the final 16-18, 2-6, 6-1, 6-2, 6-4. Gonzales again beat Schroeder in the final of a tournament in California and then turned professional. On his first appearance as a professional he was beaten by J. Kramer (U.S.A.) by three sets to one at Madison Square garden.

One of the features of the men's singles championship at Wimbledon was the improved form of F. Sedgman, the new young Australian champion who came within a point of defeating Schroeder. The holder, R. Falkenburg, was beaten by J. Bromwich (Australia) after winning the first two sets, and Bromwich was beaten in the next round, the semi-final, by J. Drobny (Czechoslovakia) 6-1, 6-3, 6-2. E. W. Sturgess (South Africa), having beaten F. Parker (U.S.A.) in five sets, took Schroeder to five sets in the semi-final. Schroeder beat Drobny in the final 3-6, 6-0, 6-3, 4-6, 6-4. Only one Englishman survived more than one round at Wimbledon, C. F. O. Lister, who was defeated in the third round by P. Washer (Belgium) 6-1, 6-1, 6-2. The two leading Englishmen, A. J. Mottram and G. L. Paish, were beaten by C. Cucelli (Italy) and V. Černik (Czechoslovakia) respectively.

Mrs. W. Dupont (U.S.A.) was unbeaten in singles during the year except on one occasion when Miss L. Brough (U.S.A.) defeated her in the final at Wimbledon 10-8, 1-6, 10-8, thus maintaining her title for the second year in succession. In the American final Mrs. Dupont beat Miss D. Hart (U.S.A.) 6-4, 6-1, and in the French final she beat Mme. N. Adamson (France), the holder, 7-5, 6-2. Miss Hart won the Australian championship defeating Mrs. M. W. Bolton (Australia), the holder, in the final.

The most successful British woman player of the year was Mrs. B. E. Hilton who reached the semi-final of the American championship with two good victories over Miss G. Moran (U.S.A.) and Mrs. H. Perez (U.S.A.), before losing to Mrs. W. Dupont. Miss J. Curry became the first English woman to beat either of the two leading Americans when she beat Miss L. Brough 4-6, 9-7, 6-2 in the French championships. She was beaten in the next round by Mme. A. Bossi (Italy) 6-3, 4-6, 6-3. Four English women, Mrs. B. Hilton, Mrs. J. J. Walker-Smith, Mrs. N. W. Blair and Mrs. E. W. Dawson-Scott, reached the last eight where they all lost to American players.

Great Britain beat Portugal by five matches to nil in the first round of the Davis cup but was beaten by Czechoslovakia by four matches to one in the second round at Wimbledon. In this match, A. J. Mottram scored Great Britain's only victory by beating Černik (Czechoslovakia). (J. Of.)

United States. The tennis spotlight in 1949 was focused on two outstanding players from California, R. Gonzales of Los Angeles and F. R. Schroeder, Jr., of La Crescenta. Having won the U.S. singles championship once again, Gonzales left the amateur ranks and signed a contract to meet professional champion Jack Kramer in a series of indoor exhibition matches.

In the field for the U.S. championship were the leading players of the world, including E. Sturgess, champion of South Africa and runner-up for the U.S. title in 1948; J. Drobny, former Czechoslovakian Davis cup star; F. Sedgman, champion of Australia, and his team-mates, J. E. Bromwich and George Worthington; Giovanni Cucelli, Italy's Davis cup hero and his partner, Marcello del Bello; Felicisimo Ampon, champion of the Philippines; Robert Abdessalam of France, Naresh Kumar of India; and Ricardo Balbiers of Chile. The other leading U.S. players included the veterans William F. Talbert, Gardnar Mulloy, Frank A. Parker, and Arthur Larsen, Earl Cochell, Herbert Flam, E. V. Seixas, Samuel Match, James Brink and Tony Trabert. During the championship at Forest Hills, New York, Schroeder was awarded the William M. Johnston trophy for good sportsmanship.

Parker, U.S. champion in 1944 and 1945, also played his last year as an amateur and won his second French title in Paris early in the season, a feat accomplished for the first time since that championship was opened to foreign players.

The U.S. was challenged by 28 nations for the Davis cup. Italy won the European zone competition and for the first time in history an Italian Davis cup team competed in the U.S. in an inter zone final. Cucelli and Del Bello, however, unaccustomed to grass courts, were unequal to the task of holding off the experienced Australians, American zone winners. Later the U.S. team turned back the Australians in their third successive victory since they won the cup from Australia in 1946. Bromwich and Sidwell, however, captured the U.S. doubles championship at the Longwood Cricket club, Brookline, Massachussets, where they beat their team-mates, Sedgman and Worthington.

Women's tennis in 1949 again found U.S. players dominating the international picture, and for the eighth year in succession Mrs. M. du Pont and Miss Brough won the U.S. women's doubles championship. (E. S. Br.)

LEARNED SOCIETIES: *see* Societies, Learned and Professional.

LEATHER. The leather industry in Great Britain began 1949 with its prices badly out of adjustment. Under the controls governing it, the prices for leathers most in demand were too low, and those for less desirable qualities were too high. Good selections sold readily but stocks of poorer qualities accumulated on tanners' hands.

There was much agitation for greater freedom to price leather more in accordance with demand. Eventually a concession was made under which tanners were permitted to raise the prices of higher grade productions by an amount sufficient to compensate them for actual losses made by selling low grades at prices below the official levels.

Early in 1949 there was a period during which raw material was scarce and there was a general fear of a coming leather shortage, which, however, did not occur as hide imports improved substantially. Stocks of low grade leathers were cleared, though only by means of price concessions.

Thus the over-riding consideration for the industry became the prospect of some measure of de-control. The industry contended that, if the government abandoned its policy of bulk-buying of hides and skins, tanners could then buy on private account to greater advantage, particularly in securing to each tanner the type of raw materials best suited to his production methods. The industry was confident that de-control would result very soon in a lowering of prices. Much pressure was brought to bear on the government to make it relax controls. Demand for cheaper leather was insistent and there were threats of an extended use of various forms of rubber soling.

In Sept. 1949, shoe manufacturers were demanding that leather and shoes should be de-controlled; they were confidently predicting that lower prices would follow, despite the fact that while control persisted leather prices were being subsidized to the extent of about £2 million a year out of a profit made by the control on the buying of domestic hides.

The devaluation of the pound upset most price calculations and made it evident that, because most hides and skins had to be imported, dearer leather was inevitable.

A definite announcement was made in Dec. 1949, that on Jan. 1, 1950, the government would hand back to tanners

the buying of a large part of the industry's raw materials and that government-bought supplies would be sold to the industry at prices about half-way between the price level before devaluation and the current world value.

The year ended with leather prices up by some 10 to 12½%. There was also a prospect of still further increases when the full influence of the new exchange rates had had time to make itself felt on the prices of hides and skins. Shoe manufacturers and leather merchants had bought heavily in anticipation of these price increases and were holding fairly large stocks capable of sustaining the full impact of the new price level on the public. But there was much trade anxiety as to what effect the expected leather prices would have on current demand. (C. A. SD.)

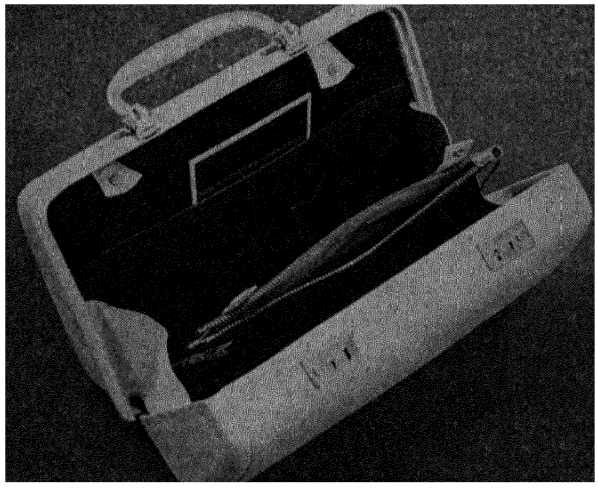
United States. U.S. leather production continued a slightly declining trend throughout 1949, with the average monthly output of all major types well below that of 1948. With the exception of calf and kip leathers, however, the industry maintained a production pace well above the prewar level. Demand for all leathers continued good throughout the year, and stocks of finished leathers in tanners' hands remained at very low levels.

There was little change in the stringencies of raw stock supplies in 1949, as imports of hides and skins remained unsatisfactory because of world economic and political conditions. However, the domestic hide and skin supply was steadily improving, and U.S. tanners were each year becoming less dependent upon raw stock imports.

An abrupt decline in market prices caused a large part of the Argentine leather goods to be withdrawn in 1949, and U.S. imports dropped 90% from the 1948 level. As these imports represented, for most part, high-grade raw stock, the lack affected the U.S. industry even more than the statistics indicated.

Although the demand for leather continued to be good during 1949, the industry was alarmed at the tremendous rise in popularity of synthetic materials for purposes for which leather had traditionally been used. Shoe production reports by the Bureau of the Census revealed that synthetics had replaced leather for 35% to 40% of shoe soles and were making heavy inroads in the shoe upper leather market. These materials, chiefly rubber and plastics, were also replacing leather to some extent in the manufacture of handbags and upholstery.

The directors of the Foundation of the Tanners Council Research laboratory authorized a grant to establish and operate a programme for the analysis and testing of various leather substitutes at the council's research laboratory in the University of Cincinnati. F. O'Flaherty, director of the council's laboratory, announced the development of a new portable device which measured scientifically the amount of moisture present in hides and leather. Moisture content determined the quality of the finished leather and its workability in the manufacture of leather products. (*See* also SHOE INDUSTRY.) (R. B. B.)



A leather travelling case which weighed only three pounds—one of the exhibits at the 1949 British Industries fair.

LEBANON. Independent Arab republic, formerly under French mandate, situated on eastern Mediterranean, bounded by Syria and Israel. Area: 3,475 sq. mi. Pop. (1949 est.): 1,208,000. Religions (1947): Christian 52% (Roman Catholic rites: Maronite 332,900, Greco-Melchite 65,400, Armenian 10,300, Syrian 5,000, Latin 3,100 and Chaldean 1,300; Greek Orthodox 111,500; Gregorian Armenian 60,800; Syrian Jacobite 3,700; Protestant 10,600); Moslem 46% (Sunni 240,000; Shia 214,000; Druze 75,800); others 2%. Language: Arabic is the mother tongue of some 90% of the population, but Armenian, Greek and other languages are also spoken. As in the middle east religious ties are often stronger than racial, Lebanon might be described as a state of minorities, no single rite or sect being in a majority. Capital: Beirut (pop. 247,000). President of the republic, Bishara Khalil el Khuri (*q.v.*); prime minister, Riad Bey es Sulh.

History. On Jan. 16-19 meetings of Lebanese and Israeli representatives took place on the frontier to discuss an armistice. It received final form on March 20 and was signed on March 23 at Ras an-Naqura.

On Jan. 28 Lebanon, with Syria (*q.v.*), agreed to allow work on the Trans-Arabian pipeline, interrupted owing to displeasure at American support for Israel, to be resumed. Negotiations with Syria on the one hand and the T.A.P.-line company on the other were completed, for subsequent ratification by the respective parliaments, on Feb. 5.

A treaty of friendship and commerce with Italy was signed at Beirut on Feb. 15. Economic and political relations with Syria deteriorated after March 30. Early in May the prime minister visited Cairo and Baghdad in an attempt to mediate in the dispute between Iraq and Egypt over the Arab League (*q.v.*) secretariat and the "fertile crescent" plan. On his return to Beirut, he called on May 11 a meeting of the political committee and on May 16 sent a message to the Egyptian prime minister: "I am now very hopeful that all disputes affecting relations between the Arab countries will be settled in a friendly manner."

On June 11, following the arrest of some 300 of its members, the Syrian National party in Lebanon was dissolved by government decree and its headquarters searched and sealed. It was alleged to have made preparations for an armed revolt. Early in July the leader of the party, Anton Saadeh, who took refuge in Damascus and was received by Husni ez-Zaim, staged attacks on gendarmerie posts in Lebanon and scattered groups of his party followers made armed raids from Syria along the frontier. It was reported that the prime minister appealed to Egypt which intervened with Zaim. Saadeh was arrested in Damascus on July 7 and handed over by the Syrian authorities to the Lebanese police. In Lebanon he was summarily tried, sentenced and executed the next morning. On July 16 a military court in Beirut tried 68 adherents of the National Syrian party, of whom 12 were sentenced to death and 53 to terms of imprisonment varying from three years to life. Over 800 others were reported to be in prison. Two days later the government closed the offices of the *Phalanges Libanaises* (Katayib), making 13 arrests and confiscating arms. (C. Ho.)

Education. (1946-47) Schools: state 631, pupils 53,190; private 815, pupils 64,769; foreign 306, pupils 50,111, universities (1948-49) 2, students 5,110.

Agriculture. Main crops ('000 metric tons, 1947): wheat 50, barley 17; maize 12; potatoes 32 Fruit production ('000 metric tons): grapes (1946) 80; oranges and tangerines (1947) 40; lemons, limes, etc. (1947) 25; olives (1946) 35 Livestock ('000 head, Dec. 1947). cattle and buffaloes 22, sheep 21; horses (Dec. 1946) 8, asses 25. Fisheries: total catch (1948) 1,440 metric tons

Foreign Trade. (1948, with Syria) Imports £L468 million, exports £L79 million.

Transport and Communications. Roads (1947): 2,068 mi. Licensed motor vehicles (Dec. 1948): cars 9,100, commercial vehicles 4,300. Railways (Dec. 1948) 248·4 mi

Finance and Banking. Budget: (1948 est.) balanced at £L67 million; (1949 est.) balanced at £L75 million. Currency circulation (March 1949; in brackets, March 1948): £L185 (201) million. Gold reserve of the Bank of Syria and Lebanon (June 1949)· 2 8 million U S. dollars. Bank deposits (Dec. 1948; in brackets, Dec. 1947)· £L194 (205) million. Monetary unit: *Lebanese pound* with an exchange rate of £L6·13 (8·83 before Sept. 18, 1949) to the pound sterling.

LEEWARD ISLANDS. British colony consisting of a group of islands in the Caribbean Politically it is divided into four presidencies: Antigua (with Barbuda), St Christopher-Nevis (with Anguilla), Montserrat and the Virgin islands. Total area: 423 sq. mi. Total pop. (Dec. 1947 est): 109,274. Governor, Earl Baldwin of Bewdley.

History. Early in 1949 the governor was recalled to England for consultation. Rumour suggested that this was due either to complaints from certain Leeward islanders or to a somewhat unconventional address he had made to the Legislative Council; these rumours were fed by remarks he made to press correspondents but they were denied in official circles. None the less the governor's return was celebrated in the colony with popular acclaim as a victory of the coloured and poorer elements.

It was announced in April that the secretary of state for the colonies had agreed to certain constitutional changes, including the introduction of adult suffrage (subject to a simple literacy test only) at the next election for the Legislative Council, and the removal of the property qualification for a candidate, subject to further examination of the existing arrangements for deposits which candidates were required to make.

The reports of the commission appointed in July 1948 to enquire into the organization of the sugar industry of St. Kitts and of Antigua were published in November. Each contained a minority report recommending the nationalization of the industry. The majority reports recommended *inter alia* a vigorous campaign for the improvement of rural housing; government responsibility for housing sugar estate workers; a wages board or council for the industry and a joint consultative assembly for the industry in St. Kitts; a land utilization survey, reconstruction of the cost of living index; review of the wholesale and retail profit margins; and consolidation of basic wage rates, amendments and cost of living bonuses in Antigua. (J. A. Hu.)

Finance and Trade. Currency (from 1948). West Indian dollar, £1 = $4·80 Principal exports· sugar and cotton.

	Antigua	St. Christopher-Nevis	Montserrat	Virgin Islands
Revenue .	$2,207,672[a]	$1,759,170[b]	$439,573[a]	$224,723[a]
Expenditure .	$2,577,183[a]1	$1,816,029[b]	$591,799[a]	$217,405[a]
Imports . .	£1,034,929[d]	$4,103,384[c]	$908,540[c]	$254,880[c]
Exports . .	£465,582[d]	$4,418,877[c]	$416,882[c]	$156,326[c]

[a] 1949 est [b] 1948 est [c] 1948 [d] 1947

LEGISLATION: *see* LAW AND LEGISLATION.

LEOPOLD III (LEOPOLD-PHILIPPE-CHARLES-ALBERT-MEINRAD-HUBERTUS-MARIE-MIGUEL DE SAXE-COBOURG), **King of the Belgians** (b. Brussels, Nov. 3, 1901). On Nov. 10, 1926 he married Princess Astrid of Sweden, who died in a motor accident on Aug 29, 1935; of this marriage were born Princess Josephine-Charlotte, Prince Baudouin (Sept. 7, 1930), and Prince Albert. Leopold acceded to the throne on Feb. 17, 1934, and became the determining influence in Belgian foreign policy: on Oct. 14, 1936, he proclaimed that Belgium would return to a policy of neutrality. After a courageous though vain resistance by the army, of which he was commander in chief, to the German invasion launched on May 10, 1940, the king capitulated on May 28. Against the views of his government, he decided not to leave his country and retired to the castle of Laeken. On Nov. 14, 1940, he paid a visit to Hitler at Berchtesgaden On Sept. 11, 1941, he married Mlle. Mary Lilane Baels, and a son, Alexander, was born on July 18, 1942. On June 7, 1944, Leopold left Brussels with his family under German escort for internment at Hirschstein, near Dresden, and from March 6, 1945, at Strobl, near Salzburg. He was liberated on May 8, 1945, by the U S. 7th army. The Belgian Social Christian party asked for his immediate return, but a section of the Liberals, the Socialists and the Communists advocated his abdication From the summer of 1945 King Leopold and his family were living at Pregny, near Geneva. Leopold's insistence on his reinstatement created a deadlock and the situation was not clarified by the result of the Belgian general election of June 25, 1949 (*see* BELGIUM). It was officially disclosed on Oct. 18 that in a letter to Gaston Eyskens, the prime minister, the king had affirmed that if the number of votes in his favour in the proposed referendum did not reach 55% of the total of valid votes cast he would abdicate in favour of his son Baudouin.

LEPROSY. From all parts of the world reports in 1949 indicated the belief of leprologists that cases of lepromatous leprosy receiving the sulphones showed improvement far beyond that expected from use of other methods. Even though cures were not effected, the patients led a much more comfortable existence and complications were much less pronounced. According to one leprologist the best drugs were diasone and suphetrone for oral administration and promin for intravenous use. Treatment had not become universally standardized. In some geographic areas the cost of certain sulphones limited their use. Careful clinical and laboratory observations were still needed for patients receiving sulphones.

A summary of the problem of leprosy in the British Commonwealth and outlines for treatment and policy were made in an official memorandum. The problem was still being attacked with increased vigour in the British colonies where there were as estimated 700,000 cases, principally in Nigeria. Isolation was recommended, and persons with leprosy were to be excluded from occupations which permitted others to be exposed to infection. It was the official opinion that leprosy was not incurable, but no certain cure had been found. It was recommended that settlements be organized along modern village lines, that restrictions be kept at a minimum, and that patients not actively infectious be allowed to return home periodically. Practically all British colonies maintained settlements for the care of leprosy.

Under the administration of the United States navy a leper colony was being developed on the depopulated island of Tinian. It was planned to take cases of leprosy among natives of the 120 islands in that region to Tinian for treatment. In keeping with the trend to abolish the word " leper " the institution was given the name " Hansen's Colony." A young naval medical officer volunteered for a two-year assignment in charge of the colony. At the invitation of the U.S. navy an advisory group of three physicians interested in leprosy visited the west central Pacific area. This group

doubted the wisdom of placing the leprosarium on Tinian because it was too far removed from consulting medical services, and because insular isolation was considered an archaic method for controlling the disease.

Attempts to cultivate *Mycobacterium lepræ in vitro* continued; K. Nakamura of the National Institute of Health in Japan published a method of culture which he initiated in 1930. The ingredients of the liquid medium given specific mention by the author were mucin from the submaxillary gland of the ox, phthiocol, vitamin B_1 and vitamin B_2. Nakamura was convinced that by using material from seven cases of human leprosy definite multiplication of bacilli was obtained, and reported that sub-culturing was successful up to the fourth or fifth transplanting. Since no previously reported method for culturing the leprosy bacillus had withstood the test of time, this new approach would need to be successfully duplicated by other scientists before the results could be accepted by leprologists and bacteriologists.

(C. H. BD.)

LIAQUAT ALI KHAN, Pakistani statesman (b. East Punjab, Oct. 1, 1895), became the first prime minister of Pakistan on Aug. 15, 1947. (For his early career see *Britannica Book of the Year 1949*).

In Oct. 1948 he attended the Commonwealth prime ministers' conference in London, and was also present at the second conference in April 1949. He visited Dublin on May 2, and was received by President Seán O'Kelly and members of the government. He returned to Karachi in May, after visiting Rome, Cairo, Baghdad and Tehran. Inaugurating the council of industries at Karachi on Sept. 8, he exhorted the advanced countries to give " the wherewithal for development " to the under-developed countries, along with technical assistance. In June it was announced that he had accepted an invitation to visit the Soviet Union in November, but by the end of the year this visit had not taken place. On Dec. 10 he accepted an invitation to visit the United States in May 1950.

LIBERAL MOVEMENT. Liberal parties continued to manoeuvre precariously between the larger parties assembled under the banners of the welfare state and the Christian revival. In Sweden and Belgium, however, Liberals scored notable electoral successes.

In the elections held on Sept. 19, 1948, to the Swedish Riksdag the Folkepartiet increased its strength from 26 to 57 and supplanted the Conservatives as the second largest party. Professor Bertil Ohlin ascribed his party's success to the failure of centralized regulation and control to cope with the problems either of the postwar economy or of international collaboration. He described his own party's programme of progress and the defence of freedom as Social Liberalism, a phrase perhaps borrowed from the Italian political vocabulary of four decades ago. The results suggested that the Folkepartiet gained from the Right rather than from the Left.

On June 26, 1949, the Belgian Liberals increased their representation in the Chamber from 17 to 29 and in the Senate from 12 to 24 (both bodies being slightly larger than at the time of the 1946 elections). Liberals also made considerable gains in municipal elections. These gains were proportionately greater than those of the Social Christians, and Socialists and Communists lost ground. As a result Liberals took office in a coalition government under a Social Christian prime minister. The chief feature of the Liberal campaign was a demand for a 25% cut in direct taxation. Senator Roger Motz, Liberal leader, described the Liberal successes as a victory for a policy of opposition to increasing state interference and state expenditure.

In countries governed by coalitions Liberals provided at least a useful measure of support for prime ministers in search of parliamentary majorities. In France Henri Queuille, a Radical, set up a postwar record of 13 months continuous service as prime minister before his resignation in October. In Germany the Freie Demokratische Partei made important contributions, often by way of compromise between the two major parties, to the work of constitution-making at Bonn. One of its leaders, Professor Theodor Heuss (*q.v.*), was elected first president of the new republic and others joined the government. The veteran Greek Liberal, Themistocles Sophoulis (*see* OBITUARIES), died during the year; he was succeeded as prime minister of the Greek coalition by Alexandros Diomidis (*q.v.*), a non-political Liberal.

In Great Britain the Liberal party appeared to make little headway in its struggle to recover from the disaster of 1945, but in the absence of electoral evidence (the party refrained from fighting by-elections) it was not possible accurately to judge its position. The government's decision not to hold an election until 1950 offered greater possibilities to the Liberal party than to any other, since Labour stood to lose heavily by a further deterioration in the economic position and the Conservatives failed at their annual congress to produce a positive or striking alternative policy. The Liberal party's ability to turn this situation to good account remained to be proved at the polls in 1950, a test which would be anxiously watched by continental Liberals who regarded a Liberal revival in Britain as an important factor in their own fortunes. A Liberal reverse in Britain in 1950 might indeed prove more serious for continental than for British Liberalism, since the constant and wise refusal of the British parliament to adopt any form of proportional representation gave to the marginal voters of the centre an electoral importance which they did not possess elsewhere. (*See* also POLITICAL PARTIES, BRITISH.)

In Canada the Liberal party under its new leader, Louis S. St. Laurent (*q.v.*), scored an electoral victory of a size unprecedented in Canadian history.

The annual congress of the Liberal international was held at Deauville in July under the presidency of Salvador de Madariaga. At the same time and place were held the third of a series of meetings of Liberal newspaper editors and a meeting of the newly-formed Committee of Liberal Exiles. (*See* also POLITICAL PARTIES, BRITISH.) (P. J. A. C.)

LIBERIA. A republic on the west coast of Africa, bounded on the northwest by the British colony of Sierra Leone, and on the north and northeast by the French colonies of Guinea and the Ivory Coast. Area, *c.* 43,000 sq. mi. Pop. (1949 est.): 1,600,000 (all Negroes), of which approximately 12,000 persons were direct descendants of the original settlers from the United States. Monrovia (pop., *c.* 12,000) is the capital. English is the official language; the tribal languages are divided into some 26 dialects which stem from Arabic, Bantu and Nilotic language bases. Liberia grants religious freedom to all denominations; nearly all Christian churches have had missions in Liberia for many years. President (inaugurated in Jan. 1944), William V. S. Tubman.

History. Late in 1949 the bridge spanning the St. Paul river and linking Monrovia with the western province was officially opened. Pan American World Airways reinstated international air services which brought Monrovia within 26 hr. of New York city. Also in 1949 tangible steps were taken to open to international exports the Bomi Hills iron concessions, in which Christie-Republic Steel interests were the principal U.S. investment factors. It was estimated that there were more than 50 million tons of rich surface iron ore in the Bomi area.

A corporation code and a maritime code were among the major Liberian legislative accomplishments for 1949. The same year witnessed progress in the nation's principal

industry, the production of natural rubber. Firestone, largest American investor in Liberia by way of its subsidiary, the Firestone Plantations company, increased its Liberian rubber plantations to a total of 78,861 planted acres, of which about 70,000 ac. were in bearing at the year's end. Firestone's rubber production for the fiscal year ending Oct. 31, 1949, was 57,557,721 lb.

Education. (1949) Schools: government 88, mission 78, private 23, tribal 17. Institutions for advanced education included Liberia college, College of West Africa, Monrovia, and Booker T Washington institute, Kakata, for the agricultural and basic industrial training of sons of Native chiefs and other tribespeople

Industry and Agriculture. For 1949, industrial employment, including that of the Firestone Plantations company with approximately 30,000 Native employees, was estimated at 44,800 Agriculture remains the preponderant source of employment, with rice the principal subsistence crop. Rubber is the preponderant export item, with gold, piassava fibre, palm oils and kernels, and kola nuts following in that order

Finance and Trade. The U.S dollar is the monetary unit of Liberia and is supplemented by Liberian fractional coins with the dollar base freely negotiable and at par Revenue receipts for the year ending Aug 31, 1949, were $3,735,354, an increase of $678,655 over those of the preceding year. External debt (Aug 31, 1949): $584,000; internal debt $5,050. Exports (for the 12 months ending Aug. 31, 1949) $13,527,185; imports $9,104,870, with the United States supplying about 81% of the latter (C. M. WI.)

LIBRARIES. The special need for scientific and technical information to assist research workers in science and industry increased and set more problems for consideration by all those whose work included the supply of books, periodicals and information. The availability of this material for the increasing number of people in Great Britain who wanted to use it was therefore a major topic of discussion throughout 1949 for many organizations concerned with libraries, education, science, industry and the book trade, particularly the Lord President of the Council's Committee on Industrial Productivity, the Royal Society, the Library association, Aslib, the United Nations Educational, Scientific and Cultural organization and the National Book league.

One of the most important events of latter years was the establishment of an independent organization to provide an official current national bibliography, based on a scheme first drawn up by the Library association. The council of the British National Bibliography was formed in March 1949 and consisted of representatives of the British museum, the Library association, the Publishers' association, the Booksellers' association, the National Book league, the Royal Society, the National Central library, the British Council, Aslib and the U.N.E.S.C.O. Co-operating Body for Libraries. The editorial work was to be carried out at the British museum in close proximity to the Copyright Receipt office and the bibliography was to be issued in the form of a weekly book list of all books published in Great Britain, commencing in the first week of Jan. 1950. All books were to be fully catalogued by the Anglo-American rules and classified in accordance with the Dewey decimal classification. There was also to be an annual volume containing the entries for the year, in classified order with appropriate indexes. The British National Bibliography would thus form a central catalogue of the books published in Great Britain as well as a guide to the selection and purchase of books.

Another important event was the establishment of a British National Book centre at the National Central library. This became a new department of the National Central library activities which, it was hoped, would help the better distribution of books and periodicals which became available from time to time as gifts or as superfluous duplicates, by ascertaining the requirements of libraries and meeting them as far as possible. Many institutions had superfluous books which were not needed but which it would be unwise to destroy because experience had shown that other libraries might have been unable to obtain them. The British National Book centre acted as a central bureau in Great Britain to obtain and circulate information regarding redundant books. Its main object was the distribution of books among British libraries but it was co-operating with U.N.E.S.C.O. in encouraging international interchange of books and periodicals and working with U.S. and Canadian book centres operating on similar lines. Many thousands of books and periodicals had already been distributed to British libraries and libraries in Europe.

These important developments, stimulating interest in libraries generally, were a fitting prelude to the celebration of the centenary of the passing of the first Public Libraries bill for England and Wales, which received the royal assent in Aug. 1850. In the public library field much preparatory work had been undertaken in order to mark the centenary in the most effective way possible, the main object being to encourage every library authority to make 1950 a year of assessment and plan for greater development of the library service. In commemoration of the centenary King George VI granted his patronage to the Library association, which was also honoured by the Duke of Edinburgh's acceptance of the office of president.

Statistics collected by the Library association showed that in the financial year 1948-49 over £1,870,000 or approximately 9*d.* a head of the population was spent on books for public libraries in Great Britain and Northern Ireland; and the total expenditure on the service, which was available to all but about 50,000 people in the whole of the country, was about £7,705,000 or 3*s.* 2*d.* a head of the population. The amount spent was one million pounds more than in 1947-48. The number of books issued from the lending departments of these libraries for home reading was 312 million, about 12 million more than in the previous year. Further attempts to extend the library services to meet the increased demands were of necessity still in the nature of temporary measures. Such measures included the provision of branch libraries in prefabricated huts, converted air-raid shelters, shops and other premises and also the establishment of more mobile libraries to serve urban areas where there was no building suitable for use or no site available.

A most important and interesting development was the establishment, in April 1949, of a full-time library for the patients and hospital personnel in a large general hospital at Southmead, Bristol. The scheme was a joint one, with the hospital management committee undertaking financial responsibility and the Bristol public libraries supervising the service. Opened with a stock of 4,000 volumes, the library was excellently furnished with tables, easy chairs and book display cases, while book trolleys were used to give service to bed-patients in the wards.

A new feature of British libraries, the Recorded Music collections, was further developed. Nearly 50 public libraries now had established collections of gramophone records, which in most cases were available for loan to individuals but, in some places, only to musical clubs, societies and groups. A considerable amount of information about these collections was given in a special number of the *Library Association Record*, vol. 51, no. 7, July 1949.

The work of restoring libraries which had been damaged during World War II proceeded slowly. The repair of the bomb-damaged music room and bookstacks at the University of London library and work on the completion of the tower were begun. Plans were approved for the rebuilding, on its original site, of the library of the Inner Temple, and in July the King opened a new temporary library adjoining the existing temporary building. The Inner Temple lost many books in the bombing of 1941 but the stock had gradually been built up to 80,000 volumes. At Edinburgh, work was

Osmania University Library,
HYDERABAD (DECCAN).



Part of one of the murals which were presented to the Chelsea children's library on Nov. 1, 1949. The murals were painted by three students of the Royal College of Art. The above section was by Malcolm Hughes. The other artists were George Ball and Nevill Dear.

resumed on the new building for the National Library of Scotland and there was hope that by 1953 the building would be completed.

The Radcliffe Science library at Oxford celebrated its bicentenary on April 20 and marked the occasion by a public ceremony and a special exhibition illustrating the history of the library and the life of its founder, Dr. John Radcliffe. At Cambridge, A. F. Scholfield, university librarian since 1923, retired and his successor was H. R. Creswick, who was librarian of the Bodleian library, Oxford, from 1945 to 1948 and therefore had the unique distinction of serving as university librarian both at Oxford and Cambridge.

Commonwealth. In Canada steps were taken to establish a National library by the appointment of a committee which would, in the first place, set up a bibliographical centre at Ottawa. In the British West Indies, plans were formulated for regional library services in the eastern Caribbean and Jamaica. A further development in Jamaica was the establishment of a new library for the University College of the West Indies. In Trinidad a bill for the establishment of a central library for Trinidad and Tobago became law in 1949, thus providing for the continuance of a service which began in 1946 with the help of the Carnegie corporation.

Many developments were taking place in Africa; and the formation of a Central African branch of the South African Library association was expected to lead to further progress. A university library was inaugurated at Ibadan in Nigeria and, opening with a stock of 42,000 volumes and periodicals, this was the largest library in west Africa. Microfilm equipment was installed and there were plans for spending approximately £20,000 in the following few years. Steps were also taken to establish a library at the University College of the Gold Coast. Further progress could be expected at Makerere College library in Uganda which received a grant of £15,000 under the Colonial Development and Welfare act.

The Potchefstroom University College library in the Transvaal, South Africa, was destroyed by fire on Feb. 23, a great loss in a country which had been very active latterly in developing its library resources. Help in the difficult problem of the replacement of stock was given by the British Council, which presented 1,700 recent British books.

The library policy of the British Council, a body which had done so much to encourage the setting up of libraries in the colonies, changed. It would no longer " establish or maintain general public libraries " and the process of transferring responsibility to the colonies themselves began.

Europe. U.N.E.S.C.O. continued to encourage the rehabilitation of libraries after World War II and the international and national library associations were active. The 15th session of the International Library committee of the International Federation of Library Associations was held at Basle in July when reports were received from many national associations on the progress of the library movement. In Germany the Bayerische Staatsbibliothek of Munich and the Universitätsbibliothek of Erlangen organized a conference, attended by more than 100 delegates, of the re-established Association of German Librarians. In Czechoslovakia, a mobile library service was introduced in Prague. Based on the Prague Central library, the specially fitted library vans toured and served areas which were without any other library service.

The Norwegian Public Library law, which was passed in Dec. 1947, took effect from July 1949. This law made it compulsory for communities to maintain public libraries. Provision was made for subsidies on local effort and an interesting feature was that public libraries which were so well administered that they could serve as model libraries or those to which study groups were attached could obtain an extra contribution from the government.

A loss to Swedish, and European, librarianship was caused by the death of Dr. Isak Collijn, librarian of the Royal library at Stockholm for many years and an outstanding figure in the International Federation of Library Associations.

(D. C. H. J.)

United States. During 1949 many foreign libraries made tours of the U.S., sponsored by the War and State departments. U.S. libraries and lay groups continued to send books abroad. U.N.E.S.C.O. had two library plans in operation: the establishment of national exchange agencies (in the U.S., the U.S. Book Exchange, continued under a Rockefeller grant), and the book coupon scheme to help " soft " currency countries buy books in " hard " currency countries. C.A.R.E. (Co-operative for American Remittances to Europe) sent its first technical books package to Louvain university library.

Regional Co-operation. The Carnegie corporation approved a $500,000 grant to establish a midwest inter-library centre as a depository and bibliographic centre. The 54 college and reference libraries participating in the Farmington plan (complete coverage in foreign book acquisitions) were receiving books from nine countries: Mexico, Norway, Sweden, Denmark, the Netherlands, Belgium, France, Switzerland and Italy.

College and Reference Libraries. The most spectacular acquisition during the year was the private papers of James Boswell (4,000 pieces) by Yale university library.

Public Libraries. A report from the U.S. Office of Education, covering public libraries in towns with populations of over 100,000 showed the following percentage increases since 1945: 45,142,081 volumes (+23%), 9,011,703 borrowers (+11·25%), 133,283,304 books circulated (+4·23%), $45,205,592 expenditure, excluding capital outlay (+42·66%). An American Library association midsummer study showed that 736 counties had county libraries. John Deferrari, who in 1947 had given the Boston Public library a $1 million trust fund, added $500,000 to it in 1949.

Costs were the main concern of most public librarians

during the year; budget increases were largely due to improved salaries. The "book-buying power" of public libraries was set at an estimated $14 million and of all libraries, at $32 million.

Adult services made some progress; sporadic attempts at censoring the collections occurred, but there was opposition in the communities which defended the public libraries' policy of book selection. An improved service to Negroes in the south was reported. The provision of books on medical subjects, sex, marriage, etc., for adult readers was discussed. Group services progressed, the library's role being more clearly defined as one of service rather than leadership. (K. BN.)

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LIBYA: *see* ITALIAN COLONIAL EMPIRE.

LIE, TRYGVE HALDVAN, Norwegian diplomat (b. Oslo, July 16, 1896), was elected secretary general of the United Nations on Feb. 1, 1946. (For his early career see *Britannica Book of the Year, 1949.*)

In his fourth annual report dated July 7, he described the twelve months ending June 30 as "a year of progress towards a more peaceful world"; there were crises and alarms but "the fear of war has decreased." Fearing that a "misunderstanding" of the function of the U.N. might lead "to a succession of acts, or failures to act, that would end by relegating the U.N. to a second-class role in world affairs," he restated the case for the charter and nothing but the charter. Although he mentioned that he was not referring to regional alliances, his report implied some discrete criticism of the western powers Lie also defended the unanimity principle and expressed the view that it would be advisable to accept all the 14 countries applying for membership of the U.N. His speech at Bergen, Aug. 8, was misinterpreted by Moscow radio as an attack on the North Atlantic treaty. Two days later he pointed out at Oslo that he never said one word either for or against this treaty. He expressed, however, the opinion that regional alliances will not be necessary because "we shall get more peaceful times very soon." Lie added that he was neither the servant of Wall street, nor an agent of Moscow.

LIECHTENSTEIN. A small independent principality between Switzerland and Austria. Area: 61·4 sq. mi. Pop. (Dec. 1948 est.): 13,000. Language: German. Religion: Roman Catholic. Capital: Vaduz (pop. *c.* 2,400). Ruler, Prince-Regent Franz-Joseph II (succeeded his great-uncle, Franz I, on July 25, 1938); prime minister, Alexander Frick (from Sept. 2, 1945).

History. On July 27 the Security council agreed by nine votes with two abstentions to grant the request of Liechtenstein—which was not a member of the United Nations—to become a party to the statute of the International Court of Justice.

On Sept. 12, at Lignières, Berri, France, Prince Heinrich-Marie-Vincenz-Benedikt, heir to the throne of Liechtenstein, married Archduchess Elisabeth-Charlotte, daughter of Charles of Habsburg, the last emperor of Austria-Hungary, and of the Empress Zita, *née* of Bourbon-Parma.

Finance and Economy. Budget (1948, actual): revenue Fr 3,798,000, expenditure Fr 4,209,047; (1949, est.): revenue Fr.4,266,200, expenditure Fr 4,575,749 Included since 1924 in the Swiss customs and monetary union, Liechtenstein uses Swiss currency. It was believed that a quarter of the principality's revenue came from sales of postage stamps. The main industries are agriculture (chief products being potatoes, corn, wine and vegetables) and textiles.

BIBLIOGRAPHY. Barbara Greene, *Valley of Peace: The Story of Liechtenstein* (Vaduz, 1948).

LINEN AND FLAX. The traditional linen trade between Northern Ireland and the United States received a noticeable impetus in the last quarter of 1949 because of the devaluation of the pound sterling. Up to September, reports on the linen business were pessimistic. But, by the end of the year, exports of linens from Northern Ireland to the United States totalled 11,868,000 sq. yd. valued at £2,280,126, an increase of 10% over 1948. Prospects for 1950 were considered bright because of a demand for linen dress fabrics, principally those with new crease-resistant finishes. Prices were estimated to be from 12% to 15% below pre-devaluation levels, but were still four times higher than the average before World War II.

Raw material supplies were of major concern. Central European sources were no longer available to western European weavers and flax-growing was being encouraged in western Europe. In Belfast, in October, the government published details of a three-year plan for subsidizing flax growing. Spinners agreed to buy a minimum of 4,000 tons of dereted flax and 2,000 tons of rescutched tow during a three-year period; the rest was to be taken by the government.

Progress was reported in establishing the value of the aeration ret in flax production; and a modification of the preliminary breaking arrangement in the scutching machine which produced an increased yield of flax was announced A reduction of temperature and humidity in the wet-spinning rooms was also accomplished; high temperatures and excessive humidity had previously been blamed for poor performance by individual workers and difficulty in securing workers.

Improvements in looms, factory surveys in winding and weaving and improvements in the weaveability of specific cloths were given continued study.

A previous attempt, reported in 1948, to utilize the shuttleless loom, had been followed by a preference for newer types of shuttle-changing and bobbin-changing fully automatic looms as being more adaptable to flax. The shuttle-changing loom was used for light fabrics such as sheers, cambric and aero fabrics. The bobbin-changing loom was widely employed for medium and heavy weight fabrics, such as huck towels. Old loom buildings were remodelled, efforts being concentrated on widening passages to facilitate greater freedom of movement, the use of larger warp beams and the introduction of mechanized equipment for transporting these from the beam storage to the back of the loom. Another improvement was the elimination of overhead motor drive which resulted in better lighting conditions and greater freedom of movement. It was also discovered in 1949 that previous unsuccessful attempts to introduce automatic weaving into linen factories resulted not from any fault of the loom mechanism but from the unsatisfactory condition of the warps produced by the old system of preparation. The inelastic nature of flax yarns called for certain modifications in construction and setting.

Belgium, one of the chief sources of flax, showed, in its 1949 exports of linen and flax, the trend toward substitution of flax yarn for linen fabric. Based on reports for eight months of the year, the average monthly production and export of flax and linen for 1949, in metric tons, compared with the 12-month average for 1948, was as follows:

	1948		1949	
	Production	Exports	Production	Exports
Flax tow	—	1,011	—	10,878
Scutched flax	—	3,226	—	23,492
Flax yarn	620	215	3,951	2,457
Linen fabric	418	165	2,350	1,475

In France, flax production was running well ahead of

schedule, and was expected to exceed 29,000 tons, compared with 22,000 tons in 1948.

In Canada all flax production was suspended in 1949 except in Quebec and Ontario. Only 7,500 ac. were planted in 1949, compared with 14,116 in 1948 and an average of 24,548 in 1943-47. The only mill spinning flax fibre used tank-retted flax from Belgium. However, even imports were drastically lower in the first six months of 1949 than in the same period of 1948. Belgium and the United States supplied most of the 1,110 cwt., compared with 8,526 cwt. in 1948.

The political and military situation in China created confusion in the United States linen market in October; and it was predicted that no shipments would be received from either central or south china until the situation resolved itself. The Linen Trade association of New York, however, filed a protest with the U.S. secretary of state over the seizure of two U.S. ships by the Chinese Nationalist navy on which there was a substantial quantity of linens bound for the U.S. for 1949 Christmas sales.

Like other textile groups, linen merchants were disturbed in 1949 at the rapid advance made by the Japanese in re-entering world markets. Japan was expected to be shipping large quantities by 1950 of low count cotton fabrics for table use that would seriously compete with linen cloths.

(I. L Bl.)

LITERARY PRIZES. Nobel Prize for Literature. In Nov. 1949, the Swedish Academy of Literature announced that the literature prize for 1949 would not be awarded since none of the candidates considered had received the necessary absolute majority of votes from the adjudicating committee. The leading candidates were Winston Churchill, Georges Duhamel, the French novelist, and Benedetto Croce, the Italian philosopher.

Great Britain. The James Tait Black Memorial Prizes were awarded in 1949 to Graham Greene for *The Heart of the Matter* (fiction award) and to Percy Scholes for *The Great Dr. Burney* (biography). These prizes, worth about £250 each, were awarded by the professor of English literature in the University of Edinburgh. Two awards were made from the William Heinemann Foundation for Literature, administered by the Royal Society of Literature (value up to £200). Both were for poetry: the recipients were John Betjeman for his *Selected Poems* and Frances Cornford for her *Travelling Home*. The Carnegie Medal, awarded by the Library association to the British writer of an outstanding book for boys and girls, went to Richard Armstrong for *Sea Change*. The Rose Mary Crawshay Prize, an annual award offered by the British Academy for a critical or historical work dealing with English literature by a woman of any nationality, was awarded to Rosamond Tuve for an essay on *Elizabethan and Metaphysical Imagery*. The John Llewellyn Rhys Memorial Prize, the value of which was raised in 1948 to £50, was awarded to Emma Smith for her first book *Maidens' Trip*. The Tom-Gallon Award, the object of which was to free writers for creative work by providing an income for two years, was given to Olivia Manning for her short story, "The Children," published in her volume of stories entitled *Growing Up*. The Alexander Prize, administered by the Royal Historical society, was awarded to E. Drus for an essay on *The Attitude of the Colonial Office to the annexation of Fiji*. The Blackwell Essay Prize, administered by the University of Aberdeen, was awarded to Alexander J. T. Brown. The Felicia Hemans Prize for Lyrical Poetry, administered by the University of Liverpool, was awarded to W. S Kyle.

In 1946 the Rockefeller foundation in New York made a grant of 50,000 dollars for Atlantic Awards in Literature, to be given to young British writers of promise whose careers had been interrupted by the war. Grants were awarded by a committee under the chairmanship of Professor Allardyce Nicoll; the aim was to enable the recipients of awards to maintain themselves for about a year and to devote the whole of that time to writing. In 1949 awards were made to Norah Kelsall Cruickshank, Joseph Jacobs, David Paul, John Singer and Peter Norman Ross Yates. These would probably be the last awards to be made since the fund was now exhausted. The committee stated in June that they had received some 600 applications for awards, examined hundreds of scripts and had made 47 awards for poetry, drama, fiction and criticism. They said: "We feel it our duty to declare publicly our belief in the need and usefulness of such help as the Rockefeller foundation has provided, and we are certain that unless something takes the place of Atlantic awards, or the fund is sustained by further substantial gifts, there will be a serious gap left unfilled."

The Somerset Maugham Award, administered by the Authors' society out of a fund placed at their disposal by Somerset Maugham in 1947, provided an annual award of about £250 to be used for foreign travel and was open to British entrants under the age of 30. In 1949 the award went to Hamish Henderson for his book of verse, *Elegies; for the Dead in Cyrenaica*. The Sunday Times Book Prize, first awarded in 1947 and worth £1,000, was presented in 1949 to Winston Churchill for his war memoirs. In addition two special subsidiary prizes, each consisting of a gold medal and the sum of £100, were awarded to F. Spencer Chapman for *The Jungle is Neutral* and to Alan Paton for *Cry, the Beloved Country*. The William Foyle Poetry Prize was founded by the well known London bookseller in 1949 and the first award, the sum of £250, went to Edwin Muir for his volume *The Labyrinth*.

(E. Se.)

France. Goncourt Prize to Robert Merle for *Week-end à Zuydcoote*. Théophraste Renaudot prize to Louis Guilloux for *Jeu de patience*. Fémina Prize to Maria Le Hardouin for *La Dame de Coeur*. Interallié Prize to Gilbert Sigaux for *Les Chiens enragés*. Denyse Clairouin Prize to Dominique Aury for the translation of Evelyn Waugh's *The Loved One* and James Hogg's *Confessions of a Justified Sinner*. Sainte-Beuve Prize: (novel) to Lise Deharme for *La Porte d'à côté;* (essay) to Claude Mauriac for his book on the surrealist leader, André Breton. Syndicat des Critiques Littéraires Prize to Antoine Adam for his *Histoire de la Littérature française au XVIIe siècle*. (M. Jo.)

United States. Abingdon-Cokesbury Award, $7,500 to Roland H. Bainton for *Here I Stand*, a biography of Martin Luther. American Academy of Arts and Letters Award of Merit Medal, medal and cash prize of $1,000 to Thomas Mann. American Historical Association Awards: John H. Dunning Prize, about $100 awarded every two years for the best work on any subject relating to U.S. history, to William E. Livezey for *Mahan on Seapower*. Anisfield-Wolf Awards, $1,000 each for the best books on race relations, to Alan Paton for *Cry, the Beloved Country* and to J. C. Furnas for *Anatomy of Paradise*. Author Meets the Critics Prizes, honorary awards for the best novel of the year and the best non-fiction work of the year, chosen by a majority vote of the working critics and reviewers of the U.S., to Tom Lea for *The Brave Bulls* and to Robert Frost for his *Complete Poems*. Bancroft Prizes, "for distinguished writings in American history," $2,000 each to Robert E. Sherwood for *Roosevelt and Hopkins* and to Samuel Eliot Morison for *Rising Sun in the Pacific*. Bollingen Prize, $1,000 for the best book of verse by a U.S. author published in 1948, to Ezra Pound for *The Pisan Cantos*. Harper Prize Novel, $10,000 awarded biennially for a work of outstanding merit in fiction, to Max Steele for *Debby*. O. Henry Memorial Award Prize Stories, $300 first prize

to William Faulkner for " A Courtship "; $200 second prize to Mark Van Doren for " The Watchman "; $100 third prize to Ward Dorrance for " The White Hound." NEW YORK DRAMA CRITICS' CIRCLE AWARD, given for the best play produced in New York city, to Arthur Miller for *Death of a Salesman;* for the best foreign play, to *The Madwoman of Chaillot*, by Jean Giraudoux; for the best musical, to Richard Rodgers and Oscar Hammerstein II for *South Pacific*. PARTISAN REVIEW AWARD, $1,000 for " a significant contribution to literature," to George Orwell, author of *Animal Farm, Nineteen Eighty-Four* and other works. SHELLEY MEMORIAL AWARD, awarded by the Poetry Society of America for outstanding poetry, to Louis Kent. WENDELL WILLKIE MEMORIAL AWARD, for " the best book on international relations," to John King Fairbank for *The United States* and *China*. CHILD STUDY AWARD, honorary award of the Child Study Association of America " for a book for young people which faces real problems in their world " to Pearl S. Buck for *The Big Wave*.

Canada. GOVERNOR GENERAL'S AWARDS: silver medals awarded to Hugh MacLennan for *The Precipice* (fiction); to A. M. Klein for *The Rocking Chair and Other Poems* (poetry); to Colonel C. P. Stacey for *The Canadian Army 1939-45* (academic non-fiction); to Thomas Raddall for *Halifax, Warden of the North* (creative non-fiction). LORNE PIERCE MEDAL, awarded by the Royal Society of Canada for achievement of special significance and conspicuous merit in imaginative or critical literature, to John Murray Gibbon. LEACOCK MEMORIAL MEDAL FOR HUMOUR, to Angeline Hango for *Truthfully Yours*. TYRRELL MEDAL, awarded by the Royal Society of Canada for research in Canadian history, to Reginald G. Trotter. (R. E. Bs.)

LITERARY RESEARCH. The most valuable aspects of research in 1949 were chiefly concerned not with literary criticism but with its historical and biographical background and with the acquisition of materials for future investigation.

For the mediaeval period T. D. Hendrick's *Later Saxon and Viking Art* (London) threw new light on, *inter alia*, the illumination of manuscripts. Documents from the 12th to the 15th century were included in the collection of papers and records acquired by the library of St. Paul's cathedral. It was, however, in Tudor manuscripts that this collection was specially rich, containing a bound folio of letters from the Privy Council and Archbishop Whitgift concerning defence against the Armada and other manuscripts relating to Elizabethan ecclesiastical administration.

An abortive design in the theatrical field for one immense amphitheatre in London for dramatic and other entertainments was described more fully than hitherto by Leslie Hotson in *Shakespeare Survey 2* (Cambridge); it was licensed by James I and Charles I, but did not pass the Great Seal. F. N. L. Paynter's selection from *The Writings of William Clowes* (London), an Elizabethan surgeon, contained first-hand testimony to the sovereign's easing of " the king's evil," described by Shakespeare in *Macbeth*.

Elaborate editions were published of the Cambridge *Parnassus* trilogy, by J. B. Leishman; of Samuel Daniel's *Tragedy of Philotas*, by Laurence Michel (New Haven, Connecticut), and of Peter Hausted's *Senile Odium*, by L. J. Mills (Bloomington, Indiana). F. S. Boas edited from the manuscript prompt copy, with Sir Henry Herbert's licence, for the Royal Society of Literature, the hitherto supposed lost Restoration play, *The Change of Crownes* by Edward Howard, which was banned by Charles II.

For the 18th century Norman Ault in *New Light on Pope* (London) corrected and amplified details in the poet's biography and printed some of his poems, hitherto unpublished. A. L. Reade (*The Times Literary Supplement*, London, June 17) quoted from 15 newly discovered letters from Sir William Boothby, a book-collecting baronet, to Michael Johnson, Samuel's father, ordering books or binding (Oct. 14, 1684—Aug. 11, 1685) and proving that Michael had opened the Uttoxeter branch of his Lichfield bookshop by the beginning of 1685. An article in *The Times Literary Supplement* (Aug. 12) on *The Boswell Papers*, bought by Yale university from Ralph Isham, analysed the different categories into which they fall and announced that the more than 4,000 items would be published in 40 or 50 volumes.

The most important contribution to the personal story of the poets of the Romantic movement was Contessa Iris Origo's *The Last Attachment* (London), throwing new light on the relations between Byron and Teresa Guiccioli from unpublished letters of Teresa. H. W. Hausermann sent to *Notes and Queries* (Jan. 22 and Feb. 5) an " Unpublished Letter from Shelley to Medwin and Alfred Tennyson " by his grandson Sir Charles Tennyson—a remarkable study of the singular personality of the poet's father, which helped to account for Alfred's sensitiveness.

Theatre Note-Book, vol. 3 (London), contained a number of valuable research articles, as well as a list of " works in progress " in the theatrical field. A similar list of a general kind was published by the Modern Humanities Research association. *Notes and Queries* completed its centenary on Nov. 3, 1949. *The Dictionary of National Biography* published its supplementary volume for 1931-40. (F. S. B.)

LITERATURE: *see* AMERICAN LITERATURE; AUSTRALIAN LITERATURE; BOOK COLLECTING AND BOOK SALES; BOOK PUBLISHING; CANADIAN LITERATURE; CHILDREN'S BOOKS; CLASSICAL STUDIES; CZECH LITERATURE; DUTCH LITERATURE; ENGLISH LITERATURE; FRENCH LITERATURE; GERMAN LITERATURE; ITALIAN LITERATURE; LITERARY PRIZES; LITERARY RESEARCH; NEWSPAPERS AND MAGAZINES; NEW ZEALAND LITERATURE; POLISH LITERATURE; RUSSIAN LITERATURE; SCANDINAVIAN LITERATURE; SOUTH AFRICAN LITERATURE; SPANISH-AMERICAN LITERATURE; SPANISH LITERATURE; WORDS AND MEANINGS, NEW.

LITHUANIA. From Feb. 16, 1918, to Aug. 3, 1940, when it was annexed by the U.S.S.R., Lithuania was an independent republic. The British, U.S. and many other governments, however, had not granted *de jure* recognition to this annexation. For over two decades Lithuania was bounded by Latvia, Poland and Germany; in 1945 the U.S.S.R. became its eastern and western neighbour through the Russian enclave of Konigsberg (later Kaliningrad). Area: (before March 21, 1939, including Klaipeda [Memel]) 21,330 sq. mi.; (after Oct. 10, 1939, excluding Klaipeda but including Wilno [Vilnius]) 24,092 sq. mi.; (from 1945, including both Klaipeda and Vilnius) 25,173 sq. mi. Pop.: (Jan. 1939 est.) 2,575,000; (Jan. 1940 est.) 2,879,000; (Jan. 1946 est.) 2,353,000. If there had been no movement of population the last figures should have been 3,032,000. The reduction is explained by the evacuation of 34,000 Germans from Lithuania proper in 1939-40 and of 59,000 Germans from Klaipeda territory in 1945, by the first Soviet deportation in 1940-41 of 35,000 people, the murder of some 208,000 Jews by the Germans, the fact that about 80,000 Lithuanians fled to Germany when the Soviet armies returned, by a second wave of Soviet deportations in 1944-45 (about 85,000) and by the evacuation to Poland of about 178,000 Poles. Chief towns (Jan. 1940 est.): Vilnius (cap., pop., 209,400); Kaunas (154,100); Klaipeda (38,900). Chairman of the presidium of the Supreme Soviet of the Lithuanian S.S.R., Justas I. Paleckis; chairman of the Council of Ministers, Mečislovas A. Gedvilas.

History. As in the two other Baltic republics 1949 saw a new wave of mass deportations, the ruthless enforcement of collectivization and the final liquidation of the Roman Catholic hierarchy. During the last four months of 1948 and the first half of 1949 a mass deportation was carried out as part of a general plan extended also to Estonia and Latvia (*qq.v.*) According to a memorandum submitted on Nov. 2, 1949, to the United Nations by Povilas Žadeikis, on behalf of the Lithuanian Liberation committee, about 120,000 Lithuanians were deported to the interior of the U.S.S.R. In August Lieutenant General Nikolay D. Gorlinsky, Lithuanian minister of state security, and Major General Juožas M. Bartašunas, minister of home affairs, were awarded orders of Patriotic War (1st class) and of the Red Banner respectively " for the successful execution of a special assignment of the government of the U S.S R."

At the 6th congress of the Lithuanian Communist party in Feb. 1949, A. U. Snečkus, secretary general, reported that the membership was about 24,000—a low figure which, however, was presented as a fivefold increase since 1945. Snečkus called on the party to wage a ruthless struggle against the *kulaks* (the richer peasants), the nationalists and the Roman Catholic clergy. Out of 71 members of the new Central committee 33 had Russian names; out of five elected secretaries three were Russians (A. S. Trofimov, E. I. Ozarsky and D. E. Shupikov).

Collectivization made great progress during the year. At the end of 1947 there had been only 20 *kolkhozes* (collective farms) in Lithuania: in a letter from Lithuanian women published in *Izvestia* on July 6, 1949, the number of *kolkhozes* was given as more than 4,000. On Nov. 3, M. A. Gedvilas reported in the same paper that there were 5,454 *kolkhozes*.

According to a broadcast from the Vatican on July 6, Mgr. Kazys Poltorakas, bishop of Panevežys and suffragan of Kaunas, was ordered to suspend his activities; his whereabouts was not known. He was the last Roman Catholic bishop tolerated by the Communist authorities. Mgr. V. Borišević ius, bishop of Telšiai, and Mgr. S. Reinis, vicar general of Vilnius, were arrested. Of over 1,300 clergy left free until 1948, about a half were deported during 1949.

Education. In 1949 there were 2,777 elementary, 660 technical and 170 secondary schools with a total of 425,000 pupils. Students enrolled at the two universities of Vilnius and Kaunas numbered about 5,000 In 1938, without the Vilnius area, there were 2,601 elementary schools with 307,173 pupils, and 273 secondary and technical schools with 31,647 pupils

BIBLIOGRAPHY *Lithuanian Bulletin*, published by the Lithuanian American council, New York, *Newsletter from Behind the Iron Curtain*, compiled by the *Baltic Review*, Stockholm (K. SM.)

LI TSUNG-JEN, Chinese army officer and politician (b. Kweilin, Kwangsi, 1890). In 1928, as commander of the 4th army group, he completed the northern expedition against rebellious commanders and, at least theoretically, brought all China under Nanking control. Li was then appointed a state councillor in the national government. In 1929, however, he staged a revolt in Hankow, setting up a virtually independent regime in southwest China. In 1932 he was officially pardoned and appointed to the Kuomintang central supervisory committee. After the outbreak of war between China and Japan in 1937, Chiang Kai-shek sent Li with his army to the northern front, where it performed outstandingly. On April 19, 1948, Li was elected acting president of China. On Jan. 21, 1949, Chiang " retired " as president of Nationalist China, and Li became his successor. Presumably Chiang retired so that Li and others in the Nationalist government could attempt to effect peace with the Chinese Communists. Three months of peace talks, however, were ineffectual. On Dec. 7 Li arrived by air in New York for medical treatment but pledged himself to return to China to continue the fight against what he called " Communist forces of aggression."

LIVESTOCK. During 1949 the changes in the livestock industry caused by World War II either in its different phases of development or of recovery from wartime disturbances became more clearly revealed, especially in countries with dense populations of farm livestock.

For example, the problems of marginal lands became more prominent, although such lands were usually defined by reference to herbage associations and cropping systems rather than as regions in which different forms of livestock production intermingled. In so far as the highest common factor in marginal lands, whatever their geographical context, was their production of store animals for subsequent use in other areas, their main economic difficulties were similar, and could only be overcome through resuscitated markets for their products instead of through temporarily alleviation by subsidy schemes.

Thus, in 1949, while subsidies were continued in many countries, there was a marked tendency to encourage expansion and intensification of livestock output in the more productive areas, thereby stimulating production of store and breeding stock in the fringing marginal areas. The continued increase in numbers of sheep in New Zealand and of their associated dairy cattle provided an instance of this trend, although an enlarged use of fertilizers and sown pastures has undoubtedly enhanced this development in the 1940s. Similarly in Great Britain there was some revival of the lowland sheep industry in the form of grassland flocks grazing leys, often run with dairy herds; this led to an increased demand for suitable grassland types which in turn helped the market for stock bred and reared in the upland regions and improved the prospects of farmers that practised extensive pastoral stock husbandry in the mountain and hill grazing areas There was also a notable revival of the rearing of beef stores in these areas; this was encouraged by the calf subsidy but was also partly attributable to the extension of the scheme that provided for the free artificial insemination of inferior milch cows by semen from bulls of beef breeds which colour marked their offspring. Bullocks of the larger framed dairy breeds were being kept to a greater extent for finishing for slaughter to augment British home grown beef supplies; and in Northern Ireland and Eire official policy stressed the importance of dual purpose cattle stocks.

Artificial insemination became an established husbandry technique especially for the breeding of dairy cattle Significant fractions of the milch cow populations of Denmark, the United States, England and Wales and New Zealand were artificially inseminated as a means towards improved potentials of production and for combating infertility; and in many other countries the method was used in measures of disease control.

The continued restriction in importations of feeding stuffs and concentrates further stimulated attempts to use home-grown fodders and grassland more efficiently and to reduce wastage. In this connection there was some increase in the pig and poultry populations generally, although such increases tended to occur through the integration of highly productive enterprises on each holding rather than through the renewed development of specialized farming units. On the whole, the postwar pattern of efficient livestock husbandry did not repeat the older mixed farming aggregations of what had been usually relatively inefficient stock units.

Probably the most important local contributions to the livestock industry were made in Australia in connection with the development of new stock-raising areas in South and Western Australia following upon the correction of soil deficiencies, of large scale cropping of sorghum and pig keeping in Queensland and of irrigation and improved transport facilities in the northern beef cattle areas of that continent. (J. E. N.)

United States. Livestock on U.S. farms in 1949 began once more to increase in numbers, with the exception of horses, mules and possibly sheep. The number of stock sheep on farms on Jan. 1, 1949, was the lowest on record, apparently because of the competition with more profitable cattle production and the high cost and scarcity of labour. The number of beef cattle began to increase despite the fact that markets were bidding strongly for high-grade slaughter cattle. Dairy herds, because of the easy feed situation, were fed more heavily and less carefully culled. The large 1948 corn crop caused more brood sows to be kept. More chickens and turkeys were produced because the demand for eggs and poultry continued to be fairly favourable and the feeding situation improved. Horses and mules continued to decline owing to mechanical replacement.

Stimulated by the record corn crop of 1948 and the very large one of 1949, the pig crops of 1949 were larger, with the promise of a still larger one in early 1950. The spring crop of 1949 was 59,039,000 head, compared with 51,266,000 head a year earlier, and a preliminary estimate of 62,500,000 head for the spring of 1950. The autumn crop of 1949 was estimated at 37,262,000 head, compared with 33,921,000 head a year earlier. Thus the total for 1949 was 96,301,000 head, against 85,187,000 head in 1948.

LIVESTOCK ON U.S. FARMS, JAN. 1, 1949, 1948, AND 10-YEAR AVERAGE, 1938-47 (*thousands of head*)

	1949	1948	10-year average
Horses	5,921	6,589	9,495
Mules	2,353	2,541	3,620
Cattle (including calves)	78,495	78,126	76,312
Milk cows	24,450	25,039	26,118
Sheep	31,963	34,827	49,736
Pigs	57,139	55,028	60,584
Chickens	448,838	461,550	479,166
Turkeys	5,493	4,450	7,221

World. World horse numbers in 1949 were estimated at 76 million head, a slight increase compared with 1948, but 21% below prewar numbers. Increases were mostly in countries recovering from extensive war damage.

World cattle numbers at the beginning of 1949 were estimated at 761 million head, a record, and about 10 million more than a year earlier, and 4% above the prewar estimate. Significant increases occurred in all continents except North America and Africa. Practically all European countries increased; numbers in Argentina declined.

World sheep numbers, estimated at 720 million head early in 1949, increased for the second consecutive year, but were nevertheless 20 million head, or 3%, below the prewar average. Both improved grazing conditions and higher prices encouraged the expansion. The decreases in the U.S., Argentina, and China were more than offset by increases in Europe, Australia, and the U.S.S.R.

World pig production expanded in 1948, resulting in some 261 million head at the beginning of 1949, or 6% more than a year earlier. Further expansion was indicated for the 1949 crop. Significant increases occurred in all continents, with the devastated areas of Europe and the U.S.S.R. showing the major increases. (*See* also POULTRY; VETERINARY MEDICINE.) (J. K. R.)

LLOYD, HILDA NORA, British gynæcologist (b. Aug. 11, 1891), was educated at King Edward's high school for girls, Birmingham, and the University of Birmingham, where she obtained the degrees of bachelor of science, medicine and surgery. She became senior surgeon at the women's hospital and the maternity hospital, Birmingham, and professor of obstetrics and gynæcology at Queen Elizabeth hospital and the University of Birmingham. On Nov. 3, 1949, she made medical history, when, in the presence of the Queen, she was installed as the president of the Royal College of Obstetricians and Gynæcologists—the first woman to hold the office of president of any British medical college. She succeeded in office Sir William Gilliatt who, a few minutes before handing over to Professor Lloyd, admitted the Queen as an honorary fellow of the college.

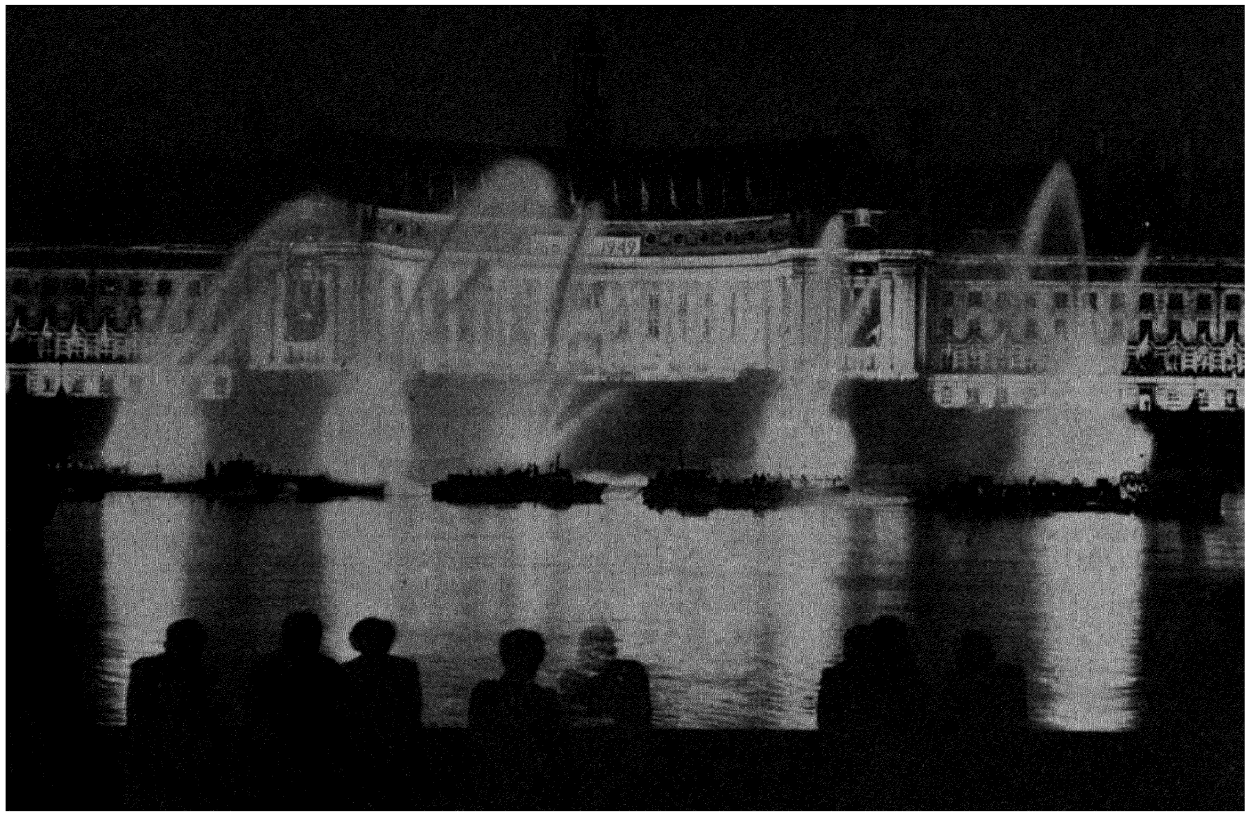
LOCAL GOVERNMENT. Great Britain. An outstanding event of the year 1949 was the setting up in January, under the authority of the prime minister, of the Local Government Manpower committee composed of representatives of government departments and local authorities with terms of reference:

"To review and co-ordinate the existing arrangements for ensuring economy in the use of manpower by local authorities and by those government departments which are concerned with local government matters; and to examine in particular the distribution of functions between central and local government and the possibility of relaxing departmental supervision of local authority activities and delegating more responsibility to local authorities."

This committee originated from the request made by the government to local authorities in 1947 that the local authorities should economize in manpower. The local authorities had thereupon made representations to the government that economy in manpower was not possible while government departments continued to concern themselves with the details of local government administration and that reduction in manpower could be carried out only if departmental controls over local authorities were diminished. The work of the committee was subdivided by the appointment of a number of sub-committees and panels, each concerned with particular local government services.

The first general local government elections to be held under the Representation of the People act, 1948, (which effected certain amendments in the law of elections) took place during April and May. The alteration in the law and procedure and, in some cases, in the areas of constituencies made it difficult both to foretell the results of the elections or to compare them with those of previous elections. Politically there was a swing towards the right; some former socialist councils lost their majorities and in many cases the socialist majority was substantially reduced. The election for the London County council produced the extraordinary result that Conservatives and Socialists obtained equal numbers of seats on the council (64 each) with one Liberal in addition. The fact that a number of the aldermen remaining in office were Socialists was sufficient to ensure the election of a socialist chairman. In the election of the new aldermen (for which only councillors may vote) the chairman of the council took the unusual step of voting. Five out of 11 of the aldermanic vacancies were secured for the Conservatives and the remaining 6 for the Socialists. In the result the council remained socialist by a majority of 78 to 70 (aldermen and councillors together but excluding the chairman).

The local government world received with surprise the announcement by the minister of health (Aneurin Bevan) in the House of Commons on June 27 that the Local Government Boundary commission was to be disbanded. The commission had, in their report for 1948, pointed out the difficulty of reviewing areas of local government without a corresponding review of the functions of local authorities. Bevan alluded to this difficulty and said that the government had come to the conclusion that it would be advisable to repeal the Local Government (Boundary Commission) act of 1945 from which the commission derived their powers; this would involve the winding up of the commission and would put the position back to what it had been before the act was passed until such time as the government had had an opportunity of reviewing the structure and functions of local government.



Firefloats throwing jets of water on the Thames in front of County hall, Westminster, in July 1949, as part of the celebrations to mark the 50th anniversary of the London County council.

The Civil Defence act, passed in Dec. 1948, empowered ministers of state, designated by Order in Council, to impose civil defence duties on local authorities (other than parish councils) by means of regulations. The home secretary and the minister of health, having been designated under the act, held discussions with local authorities and their representative associations on the drafting of regulations to be made and on the future form of the civil defence service. On Aug. 10, 1949, the Civil Defence (General) regulation, 1949, came into effect and conferred on local authorities the administrative powers necessary to carry out the civil defence functions subsequently to be assigned to them under further regulations. On the same date the Civil Defence Corps regulations authorized the local authorities each to organize a local division of the Civil Defence corps.

Further regulations were issued during November dealing with the organization for civil defence purposes of fire brigades and rescue and ambulance services, with the evacuation of the civil population, with the accommodation and care of the homeless, with the safeguarding of sewerage services and with the instruction of the public in civil defence. Local authorities were busy during the year considering ways and means of carrying out their duties in these matters.

Economic difficulties continued to restrict the activities of local authorities throughout 1949, particularly in the field of public works. One notable exception was the project of the London County council for the construction of an embankment on the south side of the Thames, in the borough of Lambeth between Westminster and Waterloo bridges. This project, encouraged by the government, had the short-term object of providing a site for the Festival of Britain exhibition in 1951 and the long-term object of forming part of the permanent re-development of the south bank area. The erection of the new embankment was so designed as to recover some 4½ ac. of land from the river. As part of the scheme both for the exhibition and for permanent use, the erection of a new concert hall was commenced, the foundation stone of which was laid by the prime minister, C. R. Attlee, on Oct. 12, 1949. The London County council indicated that it was their intention to use the hall for programmes, whether of music, ballet or drama, of a high artistic order, promoted by the council itself and by commercial and other interests under lettings from the council. The council also decided to co-operate in the formation of a company for carrying out in Battersea park activities connected with the festival.

County councils and county borough councils were occupied during the year with the making of schemes for the setting up of valuation courts, constituted from valuation panels made up of unpaid members, to hear appeals from decisions of valuation officers of the commissioners of inland revenue who, under the Local Government act, 1948, were given the duty in place of the local assessment committees of making valuations for rating purposes. The minister of health asked that the panels should be constituted by Nov. 1949 so that the valuation courts could start functioning early in 1950.

(W. E. J.)

United States. Significant federal legislation in 1949 which affected cities included the provision of increased federal aid for airports, increased federal aid for hospital construction by municipalities and payments in lieu of taxes to cities on low-rent housing projects for the fiscal year 1950 with retrospective payments for the fiscal years 1949 and 1948. Also, the programme of federal aid for local public works planning programmes which terminated

on June 30, 1947, was resumed in 1949 when congress authorized a two-year programme of $100 million interest-free loans to states, cities and other public agencies to finance plans for a $3,000 million group of public works projects, and appropriated $25 million for the fiscal year 1950. While arrears in necessary public works throughout the country were estimated at about $100,000 million, materials were once more available and there was a decline in construction costs.

After hearings in May at which federal, state and local officials, members of the Hoover commission and others appeared, a measure for the establishment of a permanent National Commission on Intergovernmental Relations composed of 14 members representing the federal, state, municipal and county governments and private citizens was introduced into the Senate. The commission would be responsible for the continuous study of the allocation of functions between governmental levels, and of intergovernmental fiscal relations. The American Municipal association at its annual conference in December adopted an extensive statement of national municipal policy on intergovernmental relations, endorsing federal legislation for the establishment of a National commission, and urged increased aid by the federal government for urban streets and highway construction.

The federal housing legislation of 1949 contained two sections of major interest to cities: one on urban redevelopment, providing federal aid in the acquisition, clearance and development of blighted or undeveloped areas; the other offering federal aid in the construction of low-rent public housing for low-income families.

Fiscal data on the nation's 397 largest cities for 1948 showed that expenditures by cities of over 25,000 population totalled $4,000 million and exceeded expenditures in 1947 by 16%. Revenues amounted to $3,700 million, or 14% more than in 1947. Revenues from property taxes increased 10%; from city sales and gross receipts taxes, 31%; and from state aid and service charges, 14% each Expenditures for current operations, constituting three-fourths of municipal spending in 1948, exceeded the 1947 total by 13%; capital outlays increased almost 50%.

Budgets early in 1949 reflected a cautious approach by city officials, due to declines or a levelling off in prices and construction costs. There were few general increases in city salaries, few extensions of municipal services and no substantial increases in property tax rates. During 1947 and 1948, local sales and income taxes had become the largest sources of tax revenues next to the property tax.

The work of the Hoover commission in recommending economies in the national government set the wheels in motion for similar action in local government. Los Angeles, for instance, appointed a commission of 27 citizens to study all city departments, with a view to the improvement of city organization and operating methods.

A survey of pay rates in 100 cities showed that fewer cities granted increases in the first half of 1949 than in the corresponding period of 1948 and 1947: 40%, compared with 61% and 47% for 1948 and 1947 respectively.

On Dec. 31, 1949, there were 891 council-manager cities in continental United States, and 15 council-manager counties. Of the cities, 71 adopted the plan in 1949, compared with 74 in 1948 and 75 in 1947. There were eight abandonments in the United States in 1949. Voters of Des Moines, Iowa, decided to abandon the commission form of government it had adopted in 1908, in favour of council-manager government, effective in March 1950.

Proportional representation was finally abolished in Massachusetts when the legislature, after several attempts, succeeded in removing it from the state's optional Plan E charter for cities. (A. M. Ds.; L. Gu.)

LOCKE, ARTHUR D'ARCY (Bobby), South African golfer (b. Germiston, Transvaal, South Africa, Nov. 20, 1917), was educated at Benoni high school. At the age of 17 he won the Prentice tournament and in 1935 won the South African open and amateur championships, being the youngest player ever to do so. He again won the South African open in 1937 and held it throughout World War II. During a European tour in 1938 he won the Irish open and the Dutch open, and also in the same year the New Zealand open. He joined the South African air force in World War II, becoming a pilot and serving in the middle east and in Italy. He played in England in the 1946 season and was awarded the Harry Vardon trophy for the lowest aggregate score for competition play in Britain during the year. He won the Canadian open in 1947. During the early part of the 1949 season he played in the United States and arrived in Britain for the open championship at Sandwich. With a final score of 283 for 72 holes—the same as that of H. Bradshaw, of Kilcroney, Ireland, he won the play-off by 12 strokes and thus won the open at his sixth attempt. In the Irish open, Bradshaw beat Locke by one stroke. During the year the American Professional Golfers' association banned him from competition because of alleged failure to keep his playing contracts. He returned to the United States and left for Johannesburg in September to undergo an operation for appendicitis.

LOCKOUTS: *see* Strikes and Lockouts.

LOCKSPEISER, SIR BEN, British scientist (b. March 9, 1891), was educated at the Grocers' school, at Sidney Sussex college, Cambridge, and the Royal School of Mines. In 1939 he was appointed assistant director of scientific research at the Air Ministry, and from 1941 he was at the Ministry of Aircraft Production where he took a leading part in the direction of aeronautical research. Leaving in 1946, when director general of scientific research, he was appointed to the newly created post of chief scientist to the Ministry of Supply and in May 1949 succeeded Sir Edward Appleton as secretary of the Department of Scientific and Industrial Research. In 1947, accompanied by Sir Henry Tizard, he visited Canada at the invitation of the Canadian government to inspect defence establishments in the dominion; and in the following year he visited India as a member of the quinquennial reviewing committee of the Indian Institute of Science. On May 20 he opened new Nickell research laboratories at Ruabon, near Chester. He led the British delegation to the African regional scientific conference which was opened by D. F. Malan, prime minister of South Africa at Johannesburg on Oct. 17. He was knighted in 1946.

LONDON. The largest city in the world, the largest port, the largest industrial town in England, the capital city of the United Kingdom and of the empire. London consists of the county, comprising the 28 metropolitan boroughs (area, 117 sq. mi.; pop. [June 30, 1949, est.] 3,389,850) and the City, the ancient heart of London (area, 1·05 sq. mi.; pop. [June 30, 1949, est.] 4,830); and greater London of about 15 mi. radius from Charing Cross, an entity sometimes identified with the Metropolitan and City Police areas, (693 sq. mi.; pop. [June 30, 1949, est.] 8,390,941), comprising the whole of Middlesex and large areas of Kent, Surrey, Hertford and Essex. Chairman of the London County council, J. W. Bowen; Lord lieutenant of the county, Field Marshal Earl Wavell; Lord mayor of London, Sir George Aylwen, and, from Nov. 9, 1949, Sir Frederick Rowland.

History. On April 8 the triennial municipal elections took place both for the London County council and the metropolitan boroughs. In April in the elections to the London County council by a remarkable turn over of votes from Labour

to the Conservative party the two parties drew even (64:64) and the solitary Liberal elected, Sir Percy Harris, held the casting vote. The Labour party however claimed the right to appoint the chairman and also to fill 6 of the 11 aldermanic vacancies. In the borough elections on May 12 there was a similar trend of votes resulting in a gain of six boroughs—Holborn, Paddington, St. Pancras, Lewisham, Stoke Newington and Wandsworth—all predominantly working-class districts, to the Conservative interest.

The year was for London the first after World War II of a return to something like normal life and routine, with fewer public events, less pageantry than in 1948 and with the tale of regular London fixtures and events revived after a lapse of ten years or more almost completed. Restoration and construction were proceeding steadily if not spectacularly: on many bombed sites the welcome sign " sold " replaced the hitherto too numerous " for sale " notices; and in important areas, notably in the city proper, mechanical grabs were at work clearing bombed foundations and steel frames were rising. Scaffolding on many of Wren's churches indicated repairs in progress: the restoration of St. Clement Danes began; and the restored Middle Temple hall and the reconstructed north aisle of All Hallows, Barking-by-the-Tower (Toc H guild church), were opened in July by the Queen. In October the prime minister laid the foundation stone of a new permanent concert hall, to form part of the 1951 Festival of Britain exhibition buildings, on the south bank of the river close to the railway between Waterloo bridge and County hall.

Continued cleaning of façades and increased use of flowers at windows, balconies and in churchyard gardens, and flower gardens laid out on bombed sites, did much to brighten the general aspect of the capital. The switching on of electric publicity signs on April 2 brought crowds to Piccadilly circus, Trafalgar square and the West End centres to see the return



The prime minister, Clement Attlee, laying the foundation stone (inset) of the new concert hall on the south bank of the Thames, Oct. 12, 1949. Behind (wearing glasses) is Herbert Morrison, lord president of the council and a former leader of the London County council talking to J. W. Bowen, chairman of the London County council.

of London's former night-time gaiety; and in May, partly for the indulgence of foreign summer visitors a clause was added to the Licensing bill permitting properly licensed restaurants and night clubs in London to conduct business till 2 a.m.

Extensive rehousing activities in many parts of London included, among developments showing originality, a block of flats of unusual design in Finsbury, blocks of flats in Islington for old people built by the London Parochial Charities with garden courts and special amenities and equipment; and West Ham borough council partially completed a remodelling of a large, badly bombed district as a " neighbourhood unit " on garden city lines, intended to house 12,000 people, called the Keir Hardie estate.

Throughout the port of London there were steady repairs and reconstruction to wharves, transit sheds, quays, lock gates and docking machinery. New piers at Putney and Charing Cross were constructed to deal with the summer " water-bus " traffic. The tonnage handled in the port continued to rise and at 45,939,095 tons at the close of March 1949 was 4½ million tons above the annual total at the same date in 1948 and 74% of the 1939 figure.

Noteworthy events in the artistic life of London were the visits during the summer of select masterpieces from the Alte Pinakothek, Munich, and the Kunsthistorisches Museum, Vienna, to the National and Tate galleries respectively. The Royal Academy in addition to the usual summer show (the attendance not quite up to the record of 1948) opened in January an exhibition of works acquired for the nation under the Chantrey bequest giving rise to animated public controversy as to standards of artistic taste; and in December an exhibition of French landscape painting, to run through the winter months.

At the British museum in September the Elgin marbles were restored to public view, after ten years' seclusion, in a much improved arrangement in the redecorated old Elgin rooms. The new galleries built for them (a gift of Sir Joseph Duveen) had received severe war damage. At St. Paul's cathedral a design was being considered for replacing the 19th century reredos by a baldachino of baroque style in keeping with Wren's known ideas. The apsidal chapel was to become a memorial chapel to members of the U.S. forces who lost their lives while based on Britain during World War II, the expenses to be borne by British contributions. A marble roll of honour was being prepared in the United States.

The normal tranquillity of the lord mayor's show (recapitulating the history of transport) on Nov. 9 was marred less by the torrential rains than by the bolting of the horses of the retiring lord mayor's coach to the discomfort and slight damage of some spectators. In November the officers and ratings of H.M.S. " Amethyst " were welcomed in London with a thanksgiving service at St. Martins-in-the-Fields and a banquet at Guildhall. In December there was a reception by the King, a triumphal march and luncheon at the Guildhall for representatives of the Royal Air Force and others who had taken part in the Berlin air lift.

Nearly all the statues removed from open air sites during the war returned to their positions. That of Sir Robert Peel formerly at the junction of Newgate street and Cheapside was still absent; the Royal Marines' memorial was re-erected in the Mall close to its former site now occupied by the Admiralty citadel; the Royal Naval division memorial was to go to Greenwich and the statue of General Gordon from Trafalgar square, after much discussion, was to stand in Whitehall place in front of the new government building in course of erection.

In addition to further discoveries relating to Roman and mediaeval London in the bombed Cripplegate area, the Mediaeval and Roman London Excavation council had to deal in circumstances of emergency with finds, principally Roman, brought to light by contractors' mechanical excavators clearing bombed sites for reconstruction in Old Jewry, Eastcheap, Wallbrook, Bankside and elsewhere in and around the city. The Wallbrook (now far below street level), which formed at Dowgate the Roman port of London, yielded remains of Roman quays, pavements, articles of use including a Roman sandal and a fragment of a presumably Roman stone bollard. (D. NN.)

Budget. During 1948-49 the London County council were spending an estimated £64,569,217 on all amounts, towards which the state contributed grants estimated at £13·5 million. The net expenditure on these rates was estimated at £23·9 million.

LONDON UNIVERSITY. Bedford College, the earliest university college in Great Britain for women, celebrated the centenary of its foundation in May 1949 and was honoured by a visit from Queen Mary. Much of the new building undertaken to replace what was destroyed in air raids had been completed. The dome of University college, also destroyed in air raids, emerged anew from the scaffolding on the main block, and good progress was made with the new laboratories on the site of the bomb crater at King's college. Good progress was also made with the reconstruction at St. Bartholomew's Hospital Medical college, at the London School of Hygiene, and with the new wing of the Royal Free Hospital School of Medicine. On the Bloomsbury site the shell of the new Birkbeck college was completed and further progress made with the reinstatement of war damage to Senate House and library.

The British Postgraduate Medical federation in 1949 had affiliated 13 institutes attached to specialist hospitals. The enlarged Institute of Education had admitted 30 institutions for the training of teachers as constituent colleges or departments of the institute, and inaugurated refresher and advanced courses for practising teachers.



Queen Mary (right) with Geraldine Jebb, principal of Bedford college, London, when Queen Mary visited the college on May 19, 1949, during the college's centenary celebrations.

The number of students in schools and institutions of the university was about 16,800 and there were a further 5,000 internal students in polytechnics, etc., in the London area. Hostels for women were opened at Wye college, Kent, and at Nutford house in London. The facilities for students at the temporary Union society buildings were improved by the introduction of a catering service which provided over 400 lunches daily at cheap rates.

The number of external students including those overseas exceeded 30,000 and was three times the prewar figure. An important development was the establishment of a special relationship with University college, Southampton, as a first step to similar arrangements with the other provincial university colleges whereby teachers at the college were directly associated with the university in the degree examinations for their students. The volume of the university's extra-mural adult education work also increased, notable developments taking place in residential courses and in vacation courses for foreign students.

The vice-chancellor, Professor Lillian Penson, was one of the British delegates to the Conference of Commonwealth Universities at Halifax, Nova Scotia, and she took the opportunity of visiting several Canadian and U.S. universities. Other members of the university paid advisory visits to the new colonial university colleges in Africa and the West Indies and assisted in the recruitment of staffs. In addition, many of the teachers in the university co-operated with teachers in these colleges in the setting and marking of their examinations. The Senate considered this aspect of the university's work to be of paramount importance.

(J. H. Ps)

LORDS, HOUSE OF: *see* PARLIAMENT, HOUSES OF.

LUCA, VASILE, Rumanian politician (b. Lemneni, Trei Scaune, Transylvania, June 8, 1898), son of a Hungarian peasant, spent seven years in an orphanage and later became a mechanic-locksmith apprentice. He served in the Austro-Hungarian army in 1915-18 and took part as a Socialist in the Hungarian revolution in 1918-19. He remained in Rumania after the signature of the Trianon peace treaty and in 1922 joined the Communist party of Rumania, becoming in 1928 a member of its central committee. Sentenced to 10 years' imprisonment for organizing a strike in Grivița railway workshops in 1933, he was freed by the Soviet army in 1940, at the time of the occupation of Bessarabia. He became a Soviet citizen and from 1940-44 was deputy to the U.S.S.R. Council of Nationalities. In Aug. 1944 he was sent back to Rumania, renounced Soviet nationality and assumed the duties of secretary general of the Rumanian National Democratic front (from 1946 the Democratic Parties' bloc). On Nov. 19, 1946, and on March 28, 1948, he was elected deputy from Cluj to the National Assembly. In recognition of his voluntary service in the Soviet army during the war, he was appointed in Nov. 1947 brigadier general (reserve) of the Rumanian army and, on the 7th of the same month, minister of finance. On April 15, 1949, he became one of the three deputy prime ministers in the Petru Groza cabinet.

LUTHERANS. Lutheran Churches throughout the world were engaged during 1949 in three major tasks: the work of serving refugees, expanding their mission programme and fighting against persecution from totalitarian states.

Within the framework of the Lutheran World federation a department of service to refugees was giving spiritual ministrations and assisting in re-settlement of displaced persons and refugees. Large-scale immigration from Germany, Austria and Italy to the United States, Canada, Australia, South America, New Zealand and South Africa was changing the geography of Lutheran protestantism. It had become evident that millions of Lutherans from eastern Europe would have to find a permanent place in the life of Western Germany because of the limitations of mass emigration. Refugees previously settling in Italy, France, England and Sweden had created new developments. In Italy a Lutheran church body was formed in 1949, the first in the country's history.

The absence of a peace treaty with Germany, currency restrictions and war devastation made necessary the support of orphaned missions and younger churches in the near east, Africa, China, India, New Guinea and Indonesia. The Lutheran World federation organized a commission on missions to co-ordinate the evangelistic efforts of the various member bodies. An immediate result was an international approach as in Africa, where American, Swedish, Norwegian and Finnish missionaries were working in one field. Lutherans launched a new advance in their mission programme in Japan where three groups began work in 1949.

The continued pressure from totalitarian states in eastern Europe created serious handicaps to minority Lutheran groups. After the arrest and imprisonment in 1948 of Bishop Lajos Ordass, new Hungarian church officials amenable to the state sought to win the favour of communism. The Lutheran World federation's representative in Czechoslovakia was ordered out of the country just a few days after the new church law went into effect. This law required that pastors and church workers be employed by the state. Opposition to totalitarian measures was extremely strong and effective in eastern Germany under the leadership of Bishop Otto Dibelius of Berlin.

A programme of inter-church aid was still in progress five years after the end of World War II. American Lutherans had contributed more than $50 million to relief and reconstruction in Europe and Asia. (C E L.-Q.)

LUXEMBOURG. An independent grand duchy of western Europe bounded on the south by France, on the northwest by Belgium and on the northeast by Germany. Area: 1,010 sq. mi., including the 11 sq. mi. of the un-inhabited Kammerwald forest and a small village annexed on April 15, 1949, as accepted under the six-power agreement on March 26, 1949. Pop.: (Aug. 20, 1945, census) 281,572, (Dec. 31, 1947, est.) 290,992. Language: Luxembourgian (idiomatic) and (officially) French and German. Religion: Roman Catholic 98%. Capital: Luxembourg (pop., Dec. 31, 1947, est., 61,996). Ruler, Grand Duchess Charlotte (*q.v.*); prime minister, Pierre Dupong; minister of foreign affairs, Joseph Bech (*q.v.*).

History. The year 1949 was undisturbed by any crisis or government change, this political stability resting on healthy social conditions and an economy which was little affected by European uncertainties. Unemployment was negligible and steel production was maintained at a high level.

Linked with Belgium in an economic and customs union, the grand duchy had to align the Luxembourg franc with the Belgian when the latter was devalued on Sept. 21 (*see* BELGIUM).

Having relinquished neutrality from April 15, 1948, Luxembourg took part in the various important international meetings, shaping its foreign policy to conform with the general political and economic trends of the western powers. On April 4 Joseph Bech, minister of foreign affairs, signed the North Atlantic treaty and the instrument of ratification was deposited on June 27 with the State Department in Washington by Hugues Le Gallais, Luxembourg minister to the United States.

Within the framework of the Organization for the European Economic Co-operation the grand duchy upheld a policy of a

progressive return to free circulation of goods in Europe. Bech, speaking in Paris on Nov. 2, commented that, although all must make sacrifices, no country should be asked to subscribe to the ruin of its key industry: Luxembourg was particularly vulnerable, since its steel and iron industry was the whole basis of its economic life. (G.-H. D.)

Education. (1948) Schools elementary 966, secondary 7, technical 3

Agriculture. About one third of the Luxembourg area is arable land Production (in metric tons, 1948). bread grains 35,958; other cereals 37,881.

Industry. Industrial establishments (1948) 12,664, persons employed 46,513. Production (in metric tons, 1948, 1949, six months, in brackets) pig iron 2,626,334 (1,381,034), steel ingots and castings 2,452,844 (1,318,262); synthetic fertilizers 545,214 (292,178)

Transport and Communications. Roads (1947) 4,254 km Licensed motor vehicles (1948). cars 6,671, lorries 3,884. Telephones (1948) subscribers 20,700.

Finance. Budget (1949 est.)· revenue Fr 3,106 million, expenditure Fr.3,383 million.

MACAO: *see* PORTUGUESE COLONIAL EMPIRE.

MACARTHUR, DOUGLAS, U.S. army officer (b. Little Rock, Arkansas, Jan. 26, 1880), as commander of the southwest Pacific forces accepted the Japanese surrender in Tokyo bay on Sept. 2, 1945, and was made supreme commander of Allied powers in Japan. (For his early career see *Encyclopædia Britannica*).

In Jan. 1949, MacArthur reported that the Japanese had accepted a democratic way of life and would not yield before Communism or any other concept of enslavement. Communist plotting continued to be one of his chief problems, however, and on June 13 he accused the U.S.S.R. of inciting disorders in Japan through the Communist party. In May he recommended that Allied control of Japanese affairs be relaxed, since continued occupation was not the fault of the Japanese, he said, but of conditions in China. On July 28 he ordered occupation controls at the local level to be disbanded by the end of the year, leaving such controls operative only nationally. On Dec. 21 he asserted that 370,000 Japanese prisoners were still in Soviet hands.

MACEDONIAN PROBLEM. Reduced to the simplest terms, the Macedonian problem centres on the attempt of the Macedonian people, divided between Yugoslavia, Bulgaria and Greece, to achieve unity and independence. Difficulties arise from the fact that the national consciousness of the Macedonians is of only comparatively recent origin, that they are small in number and that the strategic importance of the area concerned has made it a focus of conflicting interests among various powers. This problem, which had seemed near settlement after World War II by the transformation of Yugoslavia into a federal republic, and by reason of the friendly relations existing between Yugoslavia and Bulgaria, became acute again after the quarrel between the Moscow Politburo and Marshal Tito was made public.

History. In Nov. 1948 the Bulgarian government had allowed an organization of Macedonians in Bulgaria to publish a declaration to the effect that the only correct and democratic solution of the problem was a Macedonian state equal to Yugoslavia and Bulgaria. Five months later the so-called Greek Democratic government became involved in the controversy when it sponsored a similar plan. At a congress of 168 delegates held on March 27, 1949, in the rebel-controlled Vitsi massif, in northern Greece, a Communist organization in Aegean Macedonia (K.O.E.M.) was formed. The gathering was addressed by Nikolaos Zahariadis (*q.v.*), secretary general of the Communist Party of Greece, and Demetrios Partsalidis, the "prime minister." Both pledged the support of the Greek Communist party for the new plan to form an independent Macedonian



people's republic including not only Yugoslav and Bulgarian, but Greek (Aegean) Macedonia as well. The congress elected a central committee of which Mikhail Maliov was secretary general and among its members were Paskal Mitrovski and Stavros Gochev, "ministers" in the Partsalidis "government."

This change of tactics in 1949 was the third since the Kremlin decided to take an active part in the Macedonian problem. The first policy had been formulated through the Comintern in 1924 when Dimitar Vlahov, a prominent Macedonian Communist, persuaded Todor Aleksandrov, the leader of the V.M.R.O. (Vontreshna Makedonska Revolutsionna Organizatsia, or Internal Macedonian Revolutionary Organization), to form a new United (Obedinena) organization (O.V.M.R.O.) to fight for an autonomous Macedonia within a Communist Balkan federation. Shortly afterwards, the members of the old V.M.R.O.—fighting simply for a Great Bulgarian solution of the Macedonian problem—assassinated Aleksandrov and elected A. N. Protogherov as their leader. When he in turn was assassinated in 1928 he was succeeded by Ivan Mikhailov.

The second Moscow policy in the Macedonian problem was evolved during World War II. As Yugoslavia was partitioned and practically all Macedonian lands were in Bulgarian occupation, Moscow decided that the Macedonian problem should be dealt with through the Bulgarian Communist party. On July 12, 1943, at Petrich, Dushan Daskalov, on behalf of the Bulgarian Communist party, and Yannis Ioannidis, on behalf of the Communist Party of Greece, signed an agreement fixing the southern frontier of Macedonia on the Olympus latitude and deciding that Macedonia should be one of the independent republics within the Balkan Communist federation.

By then, however, the importance of Josip Broz (Tito) was growing in Yugoslavia. In his opinion a Balkan Communist federation was desirable but could become a reality only under the leadership of the Communist Party of Yugoslavia. Already in 1943 Tito had sent Svetozar Vukmanović (General Tempo) to Skoplje to organize the Macedonian section of the Yugoslav Liberation front, with such success that the Kremlin had to accept the *fait accompli*. In 1945 Dimitar Vlahov became vice-president of the Federal Republic of Yugoslavia and Lazar Kulišević prime minister of

the republic of Macedonia, with Skoplje as capital. At that time Tito was looking south, towards Salonika. At Skoplje on Oct. 11, 1945, he said: "We shall never renounce the right of the Macedonian people to unite. There are brothers in Aegean Macedonia to whose destiny we are not indifferent."

At a meeting between Tito and the Bulgarian prime minister, Gheorghi Dimitrov, at Bled, in Aug. 1947, it was agreed that Bulgarian Macedonia should be incorporated into Yugoslav Macedonia as a first step towards the unification of the Macedonian people. The two leaders hoped that Aegean Macedonia would be included after it had been liberated by the Greek Communist rebels: they were also planning a great South Slav federation including Yugoslavia and Bulgaria. In Jan. 1948, however, Dimitrov was rebuked in *Pravda* for supporting such an idea. The Kremlin was already exchanging not-too-friendly letters with Tito and on June 28, 1948, the breach became public.

By sponsoring the creation of K.O.E.M., the Soviet government was reverting to its second policy in the Macedonian problem—that of using Bulgaria as its main pawn in the Balkans. Tito replied by concentrating in Macedonia ten divisions—one-third of the entire field strength of the Yugoslav army—and by closing the Yugoslav-Greek frontier. This last move, announced on July 10, 1949, was of great assistance to the Greek army in their fight against the rebels. On Aug. 2 Marshal Tito in a speech at Skoplje attacked the Bulgarian Communists for postponing the fusion of Bulgarian and Yugoslav Macedonia. In particular he described Vladimir Poptomov (whose appointment as minister of foreign affairs of Bulgaria was announced a few days later) as one who had "sold his national conscience for a chicken drumstick." (Tito had in mind the Macedonian national conscience of Poptomov who, in the mid-twenties, was a active member of the O.V.M.R.O.; he also was one of the 56 members of the Anti-fascist Council of National Liberation of Yugoslavia [A.V.N.O.J.] formed at Jajce, Bosnia, on Nov. 29, 1943). Marshal Tito also attacked Zahariadis whom he accused of having forgotten about the struggle for democracy in Greece and of regarding support for the Cominform's campaign against Yugoslavia as the more urgent task. On the same occasion Kuliševski re-voiced the claim that Yugoslav Macedonia had become the "Piedmont" of the whole of Macedonia.

In Athens and elsewhere these Skoplje speeches were noted without alarm. There was no reason to suppose that Yugoslavia would adopt a friendly attitude towards anti-Communist Greece. Nevertheless, as the year closed, a Yugoslav-Greek dispute over the Macedonian problem seemed only a most remote likelihood.

Statistical Data. Yugoslav or Vardar Macedonia, a member of the Yugoslav federal republic from 1945, covers 10,338 sq. mi and—according to the 1948 census—had a population of 1,452,000, four-fifths of the Macedonian people who are a branch of the south Slav group. According to an article by Dimitar Vlahov in the Belgrade *Borba* (Oct. 20, 1948), Bulgarian or Pirin Macedonia covers 2,623 sq. mi. with a population of 240,000. Greek or Aegean Macedonia has an area of 13,360 sq. mi. with about 1,759,000 inhabitants. But if the Yugoslav and Bulgarian parts have a Macedonian majority, in Greek Macedonia—according to the 1940 census—there were only 65,221 Macedonian Slavs, 16,639 Bulgars and 18,086 Pomaks or Moslem Bulgars. (K. Sm.)

MACHINERY AND MACHINE TOOLS.

During 1949 the output of the machine building industries in Great Britain continued to be governed rather by ability to produce than by demand; and, despite the limitations imposed on the rate of re-equipment at home under the government's capital investment programme, supplies failed to satisfy the urgent needs of British manufacturers on the one hand and of overseas customers on the other. Although the makers of industrial machinery were themselves still handicapped by lack of modern plant and by the scarcity of the necessarily skilled labour, considerable progress was made. The important textile and hosiery machine group, for example, had an average monthly output valued at £5,589,000 during the first half of the year as compared with an average of £4,693,000 for the whole of 1948. Similarly, the machine tool industry, upon which all other forms of manufacture ultimately depend, averaged £2,800,000 between Jan.-June as compared with £2,591,000 monthly average in 1948.

Exports of machinery continued to increase and for the first nine months of 1949, while the figures were still unaffected by the devaluation of sterling, reached a total of £207,751,000, as against £170,307,065 in the same period of 1948. Although less marked, the corresponding increase in tonnage, namely, from 577,000 in 1948 to 657,000 in 1949, was still substantial. Of the various main groups into which machinery exports were divided, textile machinery was easily the most important with a value for Jan.-Sept. of £30,795,000, representing an increase of nearly £4,000,000 over the equivalent figure for 1948. In the same period machine tool exports amounted to £12,138,000 or about £500,000 more than for the first nine months of 1948. Machinery thus made a substantial contribution to the overseas trade of the United Kingdom, accounting for more than 15% of all exports, and was of great importance in connection with the short term problem of securing a balance between exports and imports. In relation to the long term problem of raising the general level of productivity and, consequently, the average standard of living, however, the scale of machinery exports was greater than the country could afford

At a time when the builders of machine tools and other types of metal-working machinery were preoccupied with the necessity for continually increasing output, it would have been unreasonable to expect any widespread introduction of new designs and, for the most part, the leading firms were content to consolidate the advances they had made in preparation for the Machine Tool and Engineering exhibition held at Olympia, London, in 1948. Some machines of noteworthy size were, however, completed, among which may be mentioned a boring and turning mill weighing 475 tons with a normal turning capacity of 35 ft. which could be extended to 50 ft., a 3-roll bending machine for stainless steel plate up to 22 ft. wide by 1 in. thick believed to be the largest of its type ever made in the United Kingdom and an unusual gashing machine for preliminary operations on the forged blanks for sections of large crankshafts. On the last mentioned machine the work was rotated, and the 2½-in. wide gashes were formed by a 12 ft. 6 in diameter cutter of the circular-saw type. Another outstanding machine was supplied to a manufacturer of aircraft gas turbines. This was a lathe used for grooving the casings of axial flow compressor units; the tools could not be seen by the operator while cutting but their positions were indicated on an optical screen so that the necessary settings could be made rapidly to a high degree of accuracy.

The fine-boring process was increasingly employed for work which had to be held to close limits, and a new 4-way machine was introduced for operations on diesel fuel pump housings in which the part was held in an indexing fixture and 40 bore diameters and 14 faces were finish machined in 3½ min.

There was considerable activity in connection with the development of special-purpose machines designed to meet the needs of various industries whereby substantial economies could be achieved. Such machines included a hydraulic blade grinding machine for the edge tool trade; a machine for making 80 cycle spokes per min.; roller fluting, frame end milling machines for the textile machinery trade; a

duplex spindle locomotive cylinder boring and facing machine and a double-ended centering machine for large aluminium alloy billets. (C. H. Bu.)

United States. The downward trend in machine tool industry continued during 1949, when shipments barely touched $250 million, compared with $286 million the previous year and a wartime level of $1,360 million. The year opened in lively fashion, with the new-orders index of the National Machine Tool Builders' association at 93 in March (with an average month of 1946-47-48 taken as 100). Then business dropped abruptly until the low level of 47 was reached in July. Recovery was slow, but in November a sharp rise occurred which brought the index figure up to 83. It stayed close to that level in December.

Unlike other postwar years, in 1949 new machine tool orders exceeded shipments. The Economic Co-operation administration supplied the finance for much of the demand. Overseas sales accounted for one-fourth or more of all machine tool orders; England, Italy, France and Western Germany were the best overseas markets.

U.S. machine tool builders realized during the year that in the future they would have stiffer competition from the machine tool industries of England and European countries, especially Germany, but also Italy, Belgium, Sweden, Switzerland and France.

Near the end of 1949 the *American Machinist's* mid-century inventory of metalworking equipment revealed many facts about machine tools and other production machinery. It showed that the nation's metalworking industries had 3,118,702 production units installed in their plants. Of that number, 1,762,165 were machine tool and 471,237 were metal-forming units. If the machine tools in college shops and in maintenance departments outside the metalworking field were included, U.S. machine tool resources were over 2·2 million units which was a record.

It was also revealed that about 42% of all metalworking equipment was ten or more years old, and 19% was over 20 years of age. On the average, the country's production equipment was considerably older in 1949 than it had been at the end of World War II.

Other facts revealed by the *American Machinist's* inventory were: (1) there were installed in U.S. metalworking industries 396,464 lathes, 362,776 grinders, 361,935 drilling machines and 182,284 milling machines—the four basic types of machine tools; (2) the south had doubled its metalworking operations (based on machines installed) since World War II, and New England had increased its machine tool holdings 53% in the same period; (3) there had been a sizable shrinkage of machine tool facilities in the aircraft industry in the postwar period, and also in the car industry; and (4) the car industry had the highest percentage of old machines of all metalworking industries.

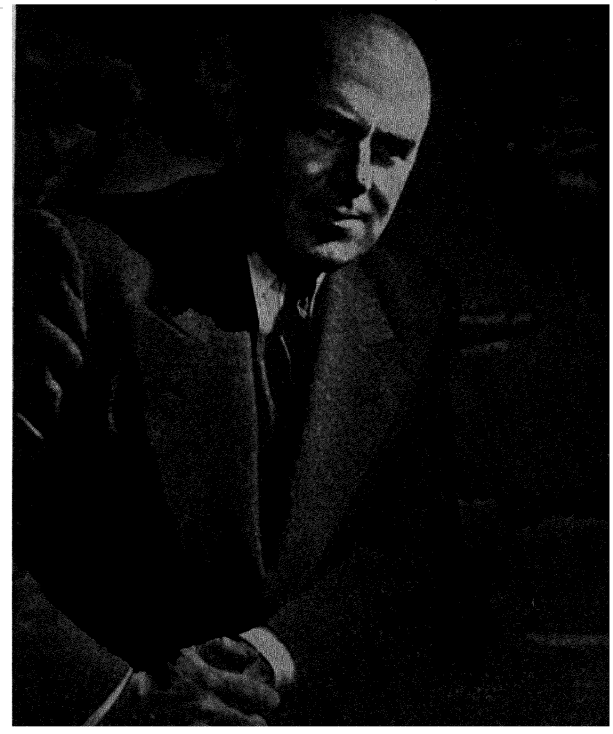
In technical developments, machining speeds tended to increase during 1949. The desired " mile-a-minute " cutting speeds were reached in grinding, even with small-diameter wheels, by developing wheelhead speeds up to 200,000 r.p.m. Lathe speeds had gone up to 1,650 f.p.m. in tests and to 1,500 f.p.m. on production units. Planer speeds had risen more than 50% to 310 f.p.m.

The problem of operating machines at so-called " supercritical speeds " was more seriously tackled in 1949. Research was given an impetus by the disclosure that a German patent was issued in 1931 to C. Salomon, who tested machining of aluminum at speeds of 55,000 f.p.m., of copper at 9,350 f.p.m. and of bronze at 5,300 f.p.m. Manufacturers were looking into the possibility of determining from the metallurgical make-up and condition of the metal exactly what the best machining speed should be, and ordering machines and tooling to fit the specifications.

The scope of carbide tools was broadened. Carbides were mounted so that the cutting force was compression rather than shear and required only simple end dressing of a rotatable performed shape; new forms of holding were employed to reduce the likelihood of cracking from brazing strains; and new forms of carbides themselves were developed.

Several companies in 1949 offered combined coolant-lubricants for use in screw machines, and additives for water to reduce its corrosiveness so that its maximum potentialities as a coolant could be realized. (*See* also Electronics.) (B. Fy.)

McCLOY, JOHN JAY, U.S. businessman and lawyer (b. Philadelphia, March 31, 1895), was educated at Amherst and Harvard. He served in World War I and in the occupation forces in Germany after that war. He later practised law in New York city, specializing in corporation law and foreign litigation. In Oct. 1940 he was appointed expert consultant to the secretary of war, and, in April 1941, assistant secretary of war. He became president of the International Bank for Reconstruction and Development in Feb. 1947. Early in 1949, in that capacity, he denied charges by the Warsaw Communist government that the International bank had discriminated against loan applications from eastern Europe and instead had helped finance French and Dutch wars against rebels in Indo-China and Indonesia. On May 18 McCloy was appointed by President Harry S. Truman as first civilian U.S. high commissioner for Germany, succeeding General Lucius D. Clay. He became also chief E.C.A. representative for Germany, and U.S. representative on the three-power Allied council set up to exercise supreme Allied authority in the federal republic of Germany, which became operative in Sept. 1949.



John Jay McCloy who in 1949 became United States High Commissioner for Germany.

MADAGASCAR: *see* FRENCH UNION.

MADRID. Capital city and geographical centre of Spain, chosen as such by Philip II in 1561; second in size to Barcelona. Pop. (est. 1949): 1,440,041.

The Royalist mass for Alfonso XIII, organized on the anniversary of his death, on Feb. 28, by the Council of Grandees, which in 1948 was prohibited by the authorities, was attended by 3,000 Monarchists. A strong police force was present: there were no incidents. In March a Madrid court-martial sentenced three Communists to death for terrorism and nine others, including one woman, to imprisonment from 10 to 30 years. Manifestations in the capital in connection with the tenth anniversary of the end of the Civil War, on April 1, were on a larger scale than usual. The Real Academia de Ciencias celebrated the centenary of its foundation in May, under the presidency of General Franco; learned societies of 12 foreign countries were represented. The director of the Spanish Academy, Ramón Menéndez Pidal, emeritus professor of Madrid university and *doyen* of Spanish scholars, received notable tributes from home and abroad on his 80th birthday. Ramón Pérez de Ayala, novelist and former Republican ambassador to London, returned to Madrid from Argentina, where he had been living in exile.

An exhibition of British painting from 1730 to 1830 was opened in February by Philip Hendy, director of the National gallery in London. Editorial Aguilar, a leading Madrid publishing house, held an exhibition in London in April. Ten boys from the Instituto Ramiro de Maeztu, a famous Madrid secondary school, arrived in London in July to return a visit paid to it by Middlesex boys in June. (W. C. AN.)

MAGAZINES: *see* NEWSPAPERS AND MAGAZINES.

MAIZE: *see* GRAIN CROPS.

MAGNANI, ANNA, Italian actress (b. Rome, March 26, 1908). At the age of 17 she attended the Eleanora Duse academy of dramatic art in Rome and later made her debut in music halls. In 1932 she married a film-director, Goffredo Alessandrini, but their marriage was dissolved in 1940. In 1936 Magnani appeared for the first time in films in *Cavalleria;* there followed *La Principessa Tarakanova* (1938); *Una lampeda finestra* (1940); *Finalmente soli* (1941); *La fuggitiva* (1941); *Teresa Venerdi* (1941); *La fortuna viene dal cielo* (1942); *Campo dei fiori* (1943); *La vita e bella* (1943); *Un uomo ritorna* (1945); *Roma città aperta* (*Open City*) (1945), which, directed by Roberto Rossellini (*q.v.*), earned Magnani the Silver ribbon (Italian) award for 1945-46 and the American critics' award for the best actress of 1946; *Abbasso la ricchezza* (1946); *Il bandito* (1946); *Davanti a lui tremava tutta Roma* (1946); *L'Onorevole Angelina* (*Angelina, M.P.*), (1947), where her performance won her the Grand International prize for the best actress of 1947 at the Venice Film festival; *Assunta Spina* (1948); *Molti sogni per le strade* (1948). Again in 1948 Magnani was awarded the Silver ribbon for her acting in *Amore*, in which for some 90 min. she was practically alone in front of the camera. In 1949 she acted in *Vulcano*, directed by W. Dieterle for the United Artists' film corporation. In March she visited London and attended the premiere of her film, *Angelina, M.P.* Anna Magnani has been recognized as the greatest actress of the Italian cinema and her art, which is strongly emotional, derives much of its truthfulness from an intuitive realism in approach. Speaking of *Roma città aperta*, Magnani said, "I don't act, I live."

MAKONNEN ENDALKACHAW, *Bitwadded,** Ethiopian statesman (b. Addis Ababa, Feb. 16, 1891). His father, *Balambaras* Endalkachaw, a military commander under the Emperor Menelik, was killed in a campaign in Wallamo. Makonnen's first appointment was registrar of companies (1926); in the following year he became minister of commerce with the rank of *negadras*. In 1928 he was Ethiopian delegate to the League of Nations; after staying some time in France, he was appointed Ethiopian minister in London. Returning to Addis Ababa in 1932, he became *kantiba* (lord mayor) of the city; at the end of his term of office he was appointed minister of the interior, with the rank of *dejazmach*. In 1935 he was made governor of Ilubabor; during the Italian invasion (1935-36) he saw service on the southern (Ogaden) front, being promoted brigadier general. After sharing the emperor's five years' exile he became, in 1941, president of the council of ministers, holding in addition the portfolio of the interior; two years later he was made prime minister, with the rank of *bitwadded*; he is a member of the Imperial Crown council. He signed the Anglo-Ethiopian agreement of 1944 as Ethiopian plenipotentiary, and in 1945 went to the San Francisco conference as chief Ethiopian delegate. He married, first, *Waizero* Zawditu, daughter of *Ras Bitwadded* Mangasha Atikam; by her he had a daughter and a son; after her death in 1936 he married Princess Yeshash-Warq, niece of the emperor. His published works are a play (*The Voice of Blood*) performed with success in Addis Ababa; *This Capricious World*, a moral romance, and *The Stone of Cain*, a philosophical dialogue.

MALAN, DANIEL FRANÇOIS, South African statesman (b. Riebeek West, Cape Province, May 22, 1874), became prime minister and minister of external affairs on June 3, 1948, in succession to Jan Christiaan Smuts (*q.v.*). (For his early career see *Britannica Book of the Year 1949*).

On Feb. 16, 1949, he was taken ill while introducing the second reading of the South West Africa Affairs bill in the House of Assembly, but was able to continue his speech on the following day. He left the Union for the first time after becoming prime minister when in April he flew to London for the Commonwealth prime ministers' conference. After the conference he went to the Netherlands where he was received by Queen Juliana, and to the Utrecht university where he had been a student nearly fifty years before. He also visited Berlin, Switzerland, where he went to the house once occupied by Paul Kruger in Montreux, and Rome where he was received by president Luigi Einaudi. He returned to South Africa on May 6. In a speech to the House of Assembly on May 11 on the Commonwealth conference he stated that he believed that South Africa's greatest chance of unity lay in a republic but that it would never leave the Commonwealth. In a speech to the Orange Free State Nationalist party congress on Oct. 26 he declared that he was preparing to make representations to the British government for the incorporation of the protectorates of Bechuanaland, Basutoland and Swaziland into the Union. On Dec. 16 he opened the Voortrekker memorial at Pretoria.

MALAYA (FEDERATION OF) AND SINGAPORE. The Federation of Malaya is a British dependency consisting of the settlements of Malacca and Penang and the protected states of Johore, Kedah, Kelantan, Negri Sembilan, Pahang, Perak, Perlis, Selangor and Trengganu. Area: 50,850 sq. mi. Pop. (1947 census): 4,867,491. Singapore is a British colony comprising the island of that name together with the Cocos-Keeling Islands and Christmas Island. Area: 217 sq. mi. Pop. (1947 census): 940,756. High commissioner of the federation, Sir Henry Gurney; governor of Singapore, Sir Franklin Gimson. A commissioner general for Southeast Asia exercises, as part of his functions, general supervisory authority. Commissioner general, Malcolm Macdonald.

* All titles are printed in italics.

History. In the federation the disturbances, which had broken out in June 1948, continued to dominate the situation in 1949. The actual number of Gurhka and British troops engaged was not disclosed but was believed to be about a division; and they were assisted by the forces of the Malay regiment, air force units, naval coastal patrols and at least 20,000 police. The daily cost of the operations was estimated at £25,000. But in spite of the strength of the forces involved and the fact that the Communist-led bandits were never assumed to number more than 5,000, the hard core of the revolt was not broken. Up to November approximately 900 bandits had been killed and 525 captured, as opposed to 21 officers and 99 other ranks killed; 15 officers and 162 other ranks wounded; 264 police and 568 civilians, including 34 Europeans, killed. September saw an intensification of the campaign, combined with an offer by the government to those who had been consorting with the bandits—in many cases unwillingly—that they would not incur the death penalty for the carrying of arms if they surrendered voluntarily to the authorities. But the offer met with small response and the campaign dragged on.

One effect of the troubles was to bring the leaders of the various communities closer together. In January a Communities Liaison committee was formed; it truly reflected the variety of races that goes to make up Malaya, comprising 6 Malays, 6 Chinese, 1 Indian, 1 European and 1 Eurasian under the chairmanship of a Ceylonese. In March this committee put out a statement in which it stressed the need for close understanding and cordial co-operation between all those races; and in another statement, issued in September, it showed that a basis had been agreed for a policy of political, social and economic development of the country.

In May it was announced in the British parliament that in view of the increased burdens which Malaya had had to bear, the British government had decided to offer a free grant of £20 million towards the Malayan War Damage Compensation scheme in place of the £10 million offered in the previous year; and also that an interest-free loan of $160 million (approximately £18½ million) was to be made available to the federation government to be repaid in annual instalments (to the extent that it was taken up) commencing in 1956. In the same month the federation government floated a £8,050,000 loan on the London market to finance rehabilitation and development projects including railway and road communications, drainage and irrigation schemes, and other public works.

Law and order was maintained in Singapore, which was the scene of a number of conferences, both local and international, including a conference of British governors and service chiefs in Southeast Asia under the chairmanship of the commissioner general in January; another in November for British diplomatic representatives, colonial governors and service chiefs in the far east; the inaugural session of the Indo-Pacific Fisheries council in March; and the fifth session, attended by 19 countries, of the United Nations Economic Commission for Asia and the Far East in October.

The legislatures of both territories accepted the recommendations of the Commission on University Education in Malaya and passed legislation creating a University of Malaya, of which Malcolm Macdonald was appointed first chancellor. The university was formally opened in October.

In spite of the troubles in the federation, production of rubber and tin never failed; and at Kuala Lumpur in February for the first time in the history of Malaya there took place a Trades Union conference attended by some 150 delegates representative of 80% of the unions of the country.

Finance and Trade. Currency: Straits dollar = 2*s.* 4*d.*

	Revenue (1949 estimates)	Expenditure (1949 estimates)	Imports (1948)	Exports (1948)
Federation	$307,302 020	$366,341,880	$490,859,576	$616,922,856
Singapore	$109,051,943	$101,326,627	$1,300,342,063	$1,113,120,406

Principal exports. Rubber, tin, tin ore, palm oil, coconut oil and copra. The trade figures are exclusive of trade between Singapore and the federation; and note should be taken that as an entrepot centre Singapore was the federation's chief source of supply and chief customer to the extent of $370,915,301 and $498,967,682 respectively in 1948

(J. A. Hu.)

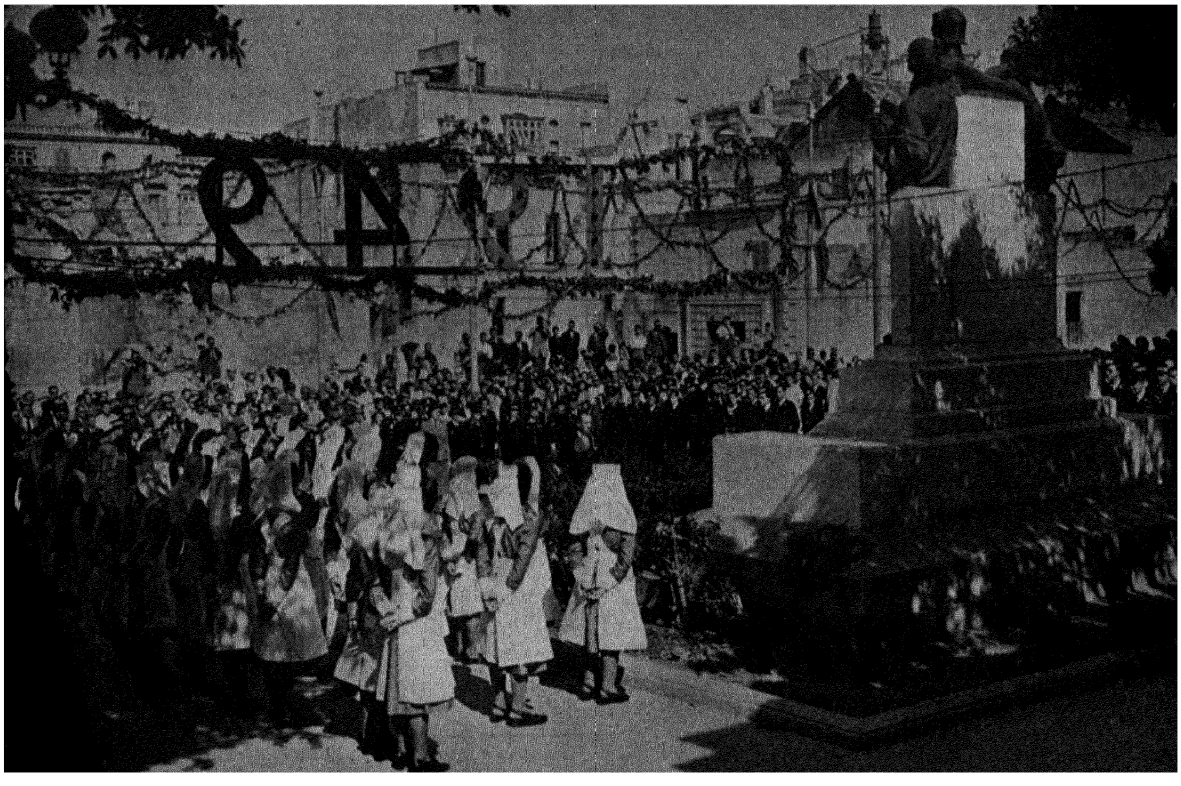
MALENKOV, GHEORGHY MAKSIMILIANOVICH, Soviet politician (b. Orenburg [Chkalov], Jan. 8, 1901), joined the Communist party in April 1920. After the civil war, he studied at Moscow Higher technical college and was secretary of the Communist students' organization. In 1925 he was appointed personal secretary to Joseph Stalin. In 1930 he was organizing secretary of the Moscow section of the party. In March 1934, before the purges of 1936-38, Stalin appointed him member of the Orgburo and head of the personnel department. The 18th congress of March 1939 elected him member of the central committee of the All-Union Communist party which, in turn, appointed him one of the four secretaries. On Feb. 21, 1941, he became a substitute member of the Politburo and on June 30, 1941, a member of the State Defence committee. For organizing aircraft production during World War II he was awarded in 1943 the title of Hero of Socialist Labour and the Order of Lenin. On March 19, 1946, he was appointed one of ten full members of the Politburo and one of eight (they were 13 by 1949) deputy chairmen of the Council of Ministers. Besides Stalin, only Malenkov was simultaneously a member of the government and of the three key party bodies: Politburo, Orgburo and secretariat. On Sept. 22-23, 1947, he and the late A. Zhdanov were Soviet delegates at the conference at Wilcza Góra, Poland, at which the Cominform was created. In a speech delivered in Moscow on Nov. 6, 1949, he said that the warmongers envisaged the creation by means of violence of an "American world empire" but there could be no doubt that if the imperialists unleashed another world war it would mean the grave of world capitalism.

MALTA. British colony in central Mediterranean with dyarchial constitution. Area: 122 sq. mi. Pop (1948 census): 305,922. Governor, Sir Gerald Creasy; prime minister, Dr. Paul Boffa.

History. A delegation from the government of Malta consisting of the prime minister, Dr. Paul Boffa, the deputy prime minister, Dom Mintoff, and the commissioner general in London, Edward Ellul, visited London during the summer of 1949 in order to obtain further assistance towards the colony's finances and economy. The three main objectives of the delegation were an indefinite prolongation of U.K. contributions to the cost of food subsidies (which were due to end in 1949); the maintenance of the existing high levels of employment in Malta by the British armed services, notably in the dockyard where 12,500 were employed compared with 8,050 in 1939; and more direct benefits to Malta under the European Recovery programme.

The British government requested information on the economic and financial position in Malta; but instead of supplying this information in a suitable form the Maltese government presented an "ultimatum." The British government thereupon stated that it was not willing to continue the talks and Dr. Boffa withdrew the "ultimatum" on Aug. 15. The talks continued but the British government was unable to concede the major claims of the Maltese government, although it was decided to reduce the rate of dismissals of persons employed in the dockyards and the War Office offered to give work in Cyrenaica to Maltese workers.

Dom Mintoff resigned from the government on Aug. 15, and Edward Ellul resigned his post the following day because



Ceremony in Oct. 1949, at Valetta, to mark the 40th anniversary of the St. John Ambulance brigade in Malta.

they did not agree to the withdrawal of the "ultimatum." Dr. Boffa continued the discussions in London until Sept. 5. In a debate in the Legislative Assembly from Sept. 9 to Sept. 19, Dr. Boffa defended his action against a bitter personal attack by Dom Mintoff and received a vote of confidence by 24 votes to 7 (Mintoff and six supporters abstaining). The Maltese Labour party, by 244 votes to 141, censured Dr. Boffa as leader of the party and prime minister. Dr. Boffa and other ministers subsequently resigned from the party and Dom Mintoff was elected party leader.

In the period April 1948 to March 1949, 3,140 Maltese residents left for other countries. Of these 1,265 went to Australia, 772 to Canada, 323 to the U.S. and 747 to Britain (*see* IMMIGRATION AND EMIGRATION).

Finance and Trade. Currency: pound sterling. Budget (1949-50 est.): revenue, £5,380,962; expenditure, £5,586,683. Foreign trade (1948): imports £16,033,815; exports £1,232,258.

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MAN, ISLE OF. An island in the Irish sea forming part of the United Kingdom of Great Britain and Northern Ireland, but administered separately by a lieutenant governor, an appointed Legislative Council, and the House of Keys of 24 elected members. Both branches of the legislature sitting together as one body, but voting separately, are known as the Tynwald court. Area: 220·7 sq. mi. Pop. (1939 est.): 50,829. Capital: Douglas (pop. 20,012). Lieutenant governor, Air Vice Marshal Sir Geoffrey Bromet.

History. In May the Tynwald unanimously passed a resolution declaring that it was right that the island should make a greater contribution towards the cost of imperial defence and other common services. Under the Isle of Man Harbours act, 1866, the island paid £10,000 annually to Great Britain. The home secretary suggested certain revision including a form of customs union and a deputation led by the lieutenant governor visited London for discussions. The Treasury suggested an increase in the annual payment to £300,000, but ultimately agreed on £100,000 a year.

The debate was resumed in the Tynwald in October. A resolution was moved on behalf of the deputation that the contribution be £50,000 with an additional 7½% upon "common purse" receipts from customs duties above £1 million with provision for revision every ten years. An amendment was moved to fix the payment at £50,000 with provision for revision each year. This was carried in the Keys but defeated in the Legislative Council. The original motion was defeated in the Keys and carried in the Council; and so deadlock was reached. On Nov. 15 the Tynwald decided to increase the payment for five years to an amount equal to 5% of the customs receipts. In 1949 this would be £85,000.

At the annual Tynwald ceremony at St. John's on July 5, 32 laws were read which had been passed by the Tynwald during the previous year. In January the Tynwald passed a resolution asking the King to extend to the island the amended National Service act which extended the period of whole-time service to 18 months. (X.)

Education. Schools: primary 36, pupils 4,162; secondary 6, pupils 2,870; domestic science college 1, students 208; school of technology, art and crafts 1, students 225.

Agriculture. Livestock (1948): horses 2,186; cattle 23,716; poultry 176,980; sheep 69,344; pigs 2,831. Acreage of land under crops and grass (1948), 75,262. Tractors 587; milking machines 99. Fisheries: crans landed (1949 season) 17,555; value £62,329.

Transport. Railways: 46¼ mi. Shipping (1948): 56 merchant vessels, 12,223 tons, and 127 fishing vessels.

Finance. Revenue (1947-48) £2,066,473; expenditure (1947-48) £2,414,689. Revenue (1948-49) £2,700,674; expenditure (1948-49) £2,768,095. National debt (March 31, 1949), £1,390,00[illegible].

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MANDATES: *see* TRUST TERRITORIES.

MANN, THOMAS, German novelist (b. Lübeck, June 6, 1875), received in 1929 the Nobel prize of literature. Exiled from Germany in 1933, he became a naturalized U.S. citizen during World War II. (For his early career see *Encyclopædia Britannica.*)

Before World War II Mann was a severe critic of all compromises which assisted Hitler to power. During the war he broadcast to Germany in the transmission *Voice of America.* In 1945 he published a " Message to the German People " in which he expressed the conviction that not only Hitler, the Nazi party and German generals had been responsible for starting World War II and committing crimes and atrocities, but also the people themselves. For such forthright opinions he was not popular in Germany. Nevertheless, on the occasion in 1949 of the 200th anniversary of Goethe's birth, Mann received the Goethe prize (Dm.10,000) from both the city of Frankfurt and the city of Weimar, which, in addition, conferred upon him honorary citizenship. In an address at Frankfurt on July 25 he said that there was in Goethe, as in the soul of every German, a mixture of the demoniac and the good; Goethe had succeeded in harmonizing his demoniac forces in the service of the good. He prefaced the address by stating that he remained a German writer and felt his country's fate as deeply as any good German. After visiting Munich, he arrived at Weimar on Aug. 1 and in a speech there—in the Soviet zone—declared that he did not see how humanity could emerge from its existing political, economic and intellectual difficulties without a conflict. In the U.S., after his first visit to Germany in 16 years, Mann told the press reporters that what impressed him most about Germany was her nationalism and impenitence about the Hitler regime.

MAO TSE TUNG, Chinese statesman (b. Shaoshan, Hunan, 1893), co-founder of the Chinese Communist party in 1921 and member of its first central committee; from 1936 chairman of the party and head of the Yunan Communist government. (For his early career see *Britannica Book of the Year 1949.*)

In Nov. 1948 Mao proclaimed that the Communists were in control of nearly one-third of China. During 1949 practically all continental China fell into their hands. On March 25 Mao arrived in Peking with Chou En-lai (*q.v.*) and General Chu Teh (*q.v.*) and soon afterwards it was announced that the ancient capital would again become the seat of a new central government. On June 15-19 Mao presided over a committee preparing a Chinese People's Political Consultative conference, a sort of constituent assembly which was convened in Peking on Sept. 21. On June 30, speaking on the 28th anniversary of the foundation of Chinese Communist party, Mao said that new China belonged to the anti-imperialist camp under Soviet leadership. On Oct. 1, he became chairman of the central government council of the Chinese people's republic—an office similar to that of the president of the republic. The formal proclamation of the republic was announced by a proclamation read by Mao before a crowd of some 200,000 in the square of the Gate of Heavenly Peace at Peking. On Dec. 16 he arrived in Moscow for the first time in his life and was received the same day by Joseph Stalin.



Princess Margaret (left) in Rome during her visit to Italy in 1949. She arrived in Rome on May 6 and on May 10 was received by Pope Pius.

MARGARET ROSE, PRINCESS (b. Glamis castle, Angus, Aug. 21, 1930), the younger daughter of King George VI (*q.v.*) and Queen Elizabeth accompanied her parents and Princess Elizabeth (*q.v.*) on a state visit to the Union of South Africa in the early months of 1947. After the wedding of Princess Elizabeth on Nov. 20, 1947, Princess Margaret undertook many public engagements. In March 1949 she made a series of visits of an educational nature. These included Battersea power station, Scotland Yard, the East London juvenile court, the central criminal court, the House of Commons and the offices of a London newspaper. On April 27, 1949, she left England by air for a month's holiday in Italy and visited Naples, Capri, Pompeii and Rome, where she attended the International Horse show and on May 10 was received in private audience by the Pope. She also visited Florence, Stresa and Venice and spent a few days in Switzerland and in Paris before returning to England on June 1. Her interest in youth movements was reflected in many engagements with the St. John Ambulance cadets, of which she was colonel in chief, the Girl Guide movement, of which she was commodore of the sea ranger section, and the national and Scottish associations of girls' clubs. During her first visit to Bristol in March she opened an exhibition " Youth at Work and Leisure." In 1947 she was appointed to the Order of the Crown of India and on Jan. 13, 1949, was invested dame of justice of the Venerable Order of the Hospital of St. John of Jerusalem.

MARIANAS ISLANDS: *see* TRUST TERRITORIES.

MARINE BIOLOGY. Research in marine biology showed some expansion after the end of World War II.

On the seashore attention continued to be devoted to the general ecology of plants and animals, and to their relations one with another. Much new information was recorded on the growth and reproduction of some of the larger seaweeds, which were being used increasingly as the source of certain commercial products. Seasonal changes in the chemical composition of these weeds were also followed. A remarkable demonstration was given of the influence of the common limpet on the growth and distribution of seaweeds in the Isle of Man where all limpets were removed from a wide strip of the rocky foreshore between tidemarks.

Much research was done on the problem of the settlement of the larval stages of marine animals on or in the bottom substratum inhabited by the adults, and of their subsequent metamorphosis. The effect of sand particle size and shape was examined as a factor in the metamorphosis of certain polychæte worm larvæ. Similarly, the role of copper present in sand and its influence on the metamorphosis of ascidian larvæ was studied. Settling reactions were also studied in relation to the fouling growths on underwater structures and on ships' bottoms, a problem of major interest to those concerned with the production of satisfactory anti-fouling compositions. Interesting new information became available on the settling of oyster spat which tended to settle in greatest abundance in the neighbourhood of the largest concentrations of the young and adult oysters. This, of course, had an important bearing on the practice of laying of oysters.

Considerable attention continued to centre round the general problem of the productivity of the sea. The search for limiting factors continued and manganese was shown to act as a trace element in the sea as it does on land. Attempts were made to translate information which had accumulated on seasonal changes in the presence of nutrient salts in solution in the sea and of the abundance of the phytoplankton and zooplankton organisms into equational form so as to express mathematically the changes that might be expected should there occur an alteration in any one of the conditioning or environmental factors. That the science of the ecology of sea-water should have reached this stage was regarded as definite advance and it was hoped that such analyses of the data available would point the way to new lines for research.

At the same time the assessment of the available producer crop in the plankton remained uncertain owing to lack of knowledge of the part played by the smaller nanoplankton organisms, such as flagellates, whose collection and identification present considerable difficulties. Attention was devoted to the culture of these minute organisms, and their possible importance as food for lamellibranch molluscs was stressed by research. Previously it was thought that the size of food organisms eaten by such molluscs as mussels and oysters was determined by selection by the cilia of the gills. It was now suggested that, when feeding, the gills were covered by a mucous layer and that consequently much smaller particles could be retained.

A fresh interest developed in methods of collecting samples of plankton for quantitative purposes. Research aimed at perfecting methods whereby the quantity of water from which the plankton organism had been collected could be accurately known. For this purpose pumps and measuring nets were used and the catches statistically analysed to evaluate the errors involved. It was hoped that by this means it would be possible to set the limits of accuracy of the different methods employed. Doubt was thrown on the reliability of the standard silk closing net as a quantitative apparatus for collecting plankton.

Attention was centred on the so-called " scattering layer " now found to exist in most ocean water. This is a layer which produces a diffuse echo when ultrasonic fathometers are used and which usually occurs at a depth of 150 fathoms or deeper. It is remarkable for showing a diurnal rise and fall in the depth at which it occurs. This latter property suggested that its origin was biological, but the actual organisms that may cause it were still unknown. Planktonic euphausians, squid or fish were considered at present to be possible causes, and further information on the phenomenon was awaited with interest.

Further advances were made in the study of the quantity of life on and in the sea bottom. For this purpose new types of apparatus for sampling known areas of the sea floor were developed. At the same time, methods of underwater photography were improved. These means showed promise of producing a truer and more accurate picture of the distribution and quantity of animals in and on the various types of deposits. Some remarkable parasitic feeding habits of small bottom-living molluscs were described. (*See* also FISHERIES; ZOOLOGY.) (F. S. R.)

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MARKET GARDENING. Small scale growers of horticultural crops in Great Britain had cause to remember 1949 as a crucial year. The business pendulum began to swing backward. Two uncontrollable factors, the weather and the economic situation, operated against a continuance of the hitherto high returns. The mild winter brought along heavy supplies of spring vegetables and prices slumped. Most of the country had only one-third of normal rainfall between May and August, consequently summer crops made no bulk and, more important, winter greens made little growth until October. Early season offerings tended to meet more competition from imported supplies, and with general farmers beginning to encroach upon the mid-season market for the staple crops like peas, carrots and celery, the market gardener was left once again in a favoured position only in his own local and high quality market. The output of drupe fruit was much reduced and great harm was done to strawberry beds on light soils in the south of the country.

The soft fruit acreage increased during the year from 39,900 to 48,500 ac. — the 1939 level — with raspberries showing the biggest proportional, and strawberries the biggest absolute, increase. By contrast the acreage of vegetables recorded was 52,789 smaller, at 529,996. There was a general withdrawal over all vegetable crops, denoting a marginal retraction of farm production and a return towards specialized production by market gardeners. Farm-produced vegetables became a feature of the trade during World War II and influenced many market gardeners to turn to out-of-season produce, which entailed increased outlay on portable glass structures. The use of glasshouses increased, and flower- and nursery stock-growing became a more popular activity. A limited amount of new glasshouse construction was allowed.

The technical advance in methods of disease control was maintained. Toxic smokes began to supplant dusts and sprays in glasshouse practice, and a new soil fumigant to counter root-knot eelworm was introduced. More generally, compounds containing the new phosphatic insecticides were given cautious trial in view of their suspected toxicity to humans. The culture of strawberries under *cloches*, with varieties adapted for the purpose, became more widespread. A research station to cover soft fruit growing was opened in Hampshire and plans were made known for three other horticultural research stations.

Part IV of the 1947 Agriculture act, which deals with the provision of smallholdings, came into operation on Oct. 1. The Smallholdings Advisory council, in a report published

in April, recommended that new holdings should provide full-time occupation and an annual net income of some £450 to the tenant. It was considered that five or six ac. of good market gardening land, or a more intensive holding of two ac. on which a heated glasshouse would be provided, would enable market garden undertakings to fulfil these requirements. (*See* also AGRICULTURE; FRUIT; HORTICULTURE; ROOT CROPS; VEGETABLES.) (R. R. W. F.)

MARRIAGE AND DIVORCE. Shortly after World War II, divorce rates had risen sharply in Great Britain, western Europe, including the occupied countries, and the United States. In 1949 there seemed little doubt that this temporary postwar peak was past; but in spite of further decreases in many nations, comparable to those of the previous year, divorce rates were expected to resume the upward trend of the previous decades.

Great Britain. The long-awaited report of the Royal Commission on Population included recommendations that the national health service be empowered to give contraceptive information to all married persons desiring it, that parenthood clinics be set up to deal with the increasing number of childless marriages, that sex education and homemaking should be widely developed, that family allowances should be increased and that incentives should be found to encourage the professional classes to have more children. On the basis of the 1947 census, the registrar general estimated that in England and Wales the total number of women exceeded that of men by 2,308,000. The Marriage Reform committee, claiming that 100,000 British couples were living out of wedlock because either the man or woman was unable to divorce the legal mate, demanded that a royal commission be established to study existing divorce laws and to consider their liberalization.

The Birmingham Marriage Guidance council reported that the three major causes of marital disharmony were ignorance of sex, lack of spiritual foundation and inadequate or unsuitable housing and that, of the marriages investigated, half of them involved civil rather than church weddings. The London Catholic Marriage Advisory council tabulated the problems of 1,543 clients and reported that 17% concerned annulments, 13% related to legal problems, 10% were medical, 8% dealt with church rules or moral questions, 6% were premarital and the rest were miscellaneous; of 447 clients with marital problems, 159 represented marriages between Catholics and non-Catholics.

Canada. The dominion Bureau of Statistics found that the size of families was decreasing steadily among younger French-Canadian married couples. Another study indicated that in 1926 the divorce rate was one-seventeenth that of the United States, but within the intervening years it had increased to one-seventh. There was continuing demand from Quebec and Newfoundland for separate divorce laws since all actions from these provinces must be adjudicated by the Canadian parliament.

United States. The marriage rate (10·8 per 1,000 population) declined for the third successive year; the number of marriages was estimated at 1,625,000, a drop of nearly 10% from the provisional total of 1,802,895 in 1948 and a decrease of over 18% from the final total of 1,991,878 for 1947. The U.S. Public Health service estimated that 29,953 of the marriage licences issued in 1948 and 22,965 in 1947 were not used, and concluded that for any given year marriages tended to be from 1 to 3% below the number of marriage licences issued. Divorces, including annulments, were not expected to exceed 380,000, a decrease of 6% from the 405,000 divorces of 1948 and of 21% from 483,000 in 1947.

Research found that one-fourth of the total labour force were women, of which approximately one-half were married and one-sixth divorced; about 36 million men were married (13% more than once), of whom nearly one-third were under 35 years (6% previously married); and, for all ages of 15 years and above, the number of males per 1,000 females was 977, the first time in history that women had outnumbered men. The first divorce law passed in South Carolina took effect as from April 1949 and cited grounds of adultery, desertion, physical cruelty and habitual drunkenness. In the Catholic archdiocese of New York, Rochester, New York, and Hartford, Connecticut, a new rule permitted mixed marriages to be performed in church but they could not be celebrated at the altar or with a nuptial mass.

Other Countries. In Europe generally the divorce rate was falling, particularly in Belgium, Denmark, France, the Netherlands, Norway and Sweden, although the marriage rate showed no great decline. Offering a bonus of Fr.22,000 upward, Belgium was encouraging families to build new homes. Czechoslovakia and Poland made civil marriages mandatory but these could be followed by religious ceremonies; divorce restrictions were tightened with divorce by mutual agreement no longer permitted; illegitimate children were given legal rights equal to those of children born in wedlock. In France the Young Women's Family service was providing training in homemaking to girls in several centres. After the ban on marriages of U.S. soldiers to German civilians was lifted, Frankfurt army headquarters reported that about 2,000 such weddings had been authorized. From Israel came the report of a drop of 40% from the divorce rate under British mandate.

Both marriage and divorce rates were increasing in Italy and the first marriage-counselling centre was opened at Milan under the direction of Dino Origlia; the general council of the International Union of Family Organizations was convened at Rome in September. In Japan, where concern was expressed at the alarming rise in abortions, parent-teacher associations were formed in a majority of the new elementary and secondary schools. To encourage parenthood, Luxembourg extended its allotment system to provide Fr. 5,000 for the first child and Fr. 3,000 for each additional birth. Through its church and school department, Norway was utilizing a national committee of physicians and clergymen to deal with problems of family-life education.

The supreme court of the Soviet Union urged the lower courts to strengthen marriage and family ties by not granting divorces for accidental or transitory causes (including "casual cohabitation"), by encouraging sex education through parental example; the ministry of justice prohibited its citizens from marrying foreigners. As from July 1, working-class couples in Spain were granted outright *c.* £60 to help found new homes and families. In Sweden, the Institute for Spiritual Guidance and Psychic Counselling began marriage counselling in its branches at Gothenburg, Hernösand, Norrköping and Uppsala.

At Buenos Aires, Argentina, the first International Congress of Mothers resolved to establish an institute of family education in every Latin American state. The second Pan-American Congress of Social Work met in Rio de Janeiro with the support of the family as its theme. An association for the study of sterility was formed in Uruguay. (*See* also VITAL STATISTICS.) (C. R. A.)

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MARSHALL ISLANDS: *see* TRUST TERRITORIES.

MARSHALL PLAN: *see* EUROPEAN RECOVERY PROGRAMME.

MARTINIQUE: *see* FRENCH UNION.

MATHEMATICS. The year 1949, in contrast with 1948, was not distinguished mathematically by any striking discovery. No outstanding old problem appeared to have been solved nor any promising new method to have been devised. Nevertheless, the output of highly technical mathematics accelerated and almost equalled in bulk that of the late 1930s. Much European work, especially German, that had been delayed in publication by World War II was printed, making further demands on the already overcrowded journals. At the close of the year it was too early to sift and appraise this mass of detailed contributions.

As the mid-20th century approached it seemed that the cultivation and production of mathematics was likely to be governed by economic and military considerations to an extent which would have seemed fantastic prior to World War II; such considerations appeared to have become a significant feature of mathematical progress during 1949 and affected mathematics in all countries; many mathematicians who before the war had not worked in applied mathematics were deflected from their previous interests, in which they had made their reputations, into governmental work of one kind or other.

On the economic level, the continued increase in the cost of printing drastically curtailed the publication of mathematical research. The most urgent problem facing the mathematicians of the United States, for example, was how to finance publication. Since about 1920 this problem had steadily become more acute. With few exceptions mathematical research was unpaid; it was done, mostly by university professors, in the researchers' own free time; and, although mathematical discovery might contain the germ of a lucrative industry, the man who made the discovery received no financial reward, for his discovery could be neither patented nor copyrighted. His compensation was that some academy or mathematical society printed his work without cost to him. Now expense made this no longer possible. Several of the European academies suspended publication. With great reluctance the American Mathematical society (with the largest membership of any body of professional mathematicians in the world) reversed its policy of publication cost-free to authors, a policy of over half a century's standing, and would henceforth ask either the author of a research paper or the institution with which he was connected to bear a substantial part of the cost of publication. An example of the financial crisis of 1949 was the plight of the abstract-journal, *Mathematical Reviews*, founded in 1940 to anticipate the suspension of similar European journals, which was sustained only by a subvention of $21,500 for one year from the office of air research. This, too, illustrated the way in which military departments had aided mathematical research since the close of World War II, even though some of the subsidized research was in fields which, at least to a layman, seemed to have no possible connection with military needs—for example, a special case of the decision problem in mathematical logic—and this type of work was not kept secret for reasons of military security and was given freely to the public, ultimately, of course, at public expense.

A more far reaching interest in mathematics on the part of military planners was expressed in the report (June 27, 1949) of the Policy Committee for Mathematics. This committee in Feb. 1949 "established a Committee on Liaison with the Department of the Army and Department of the Air Forces." This and the following quotations were transcribed from the report of the Policy committee of the American Mathematical society, Aug. 1949. Their application, with obvious qualifications, was world-wide: "The technical uses of mathematics in the army, as well as of the other services, began to multiply rapidly in World War II, and have continued to do so. Adequate and effective utilization of mathematical skills in the National Military establishment is therefore to some degree still a matter for pioneering. The fact that the number of highly trained mathematicians is limited creates a personnel problem which would become critical in an emergency . . . It was decided, therefore, that the Committee of Liaison should hold itself ready to . . . act as a panel of Consultants to assist the Department of the Army in attaining the optimum technical utilization of the available mathematical skills, and to advise upon the proper allocation of available mathematical manpower, especially in time of emergency." (E. T. B.)

BIBLIOGRAPHY. A complete list of publications for 1949, with concise abstracts, is given in *Mathematical Reviews*, vol. 10.

MATTA, JOSÉ CAEIRO DA, Portuguese educationalist, lawyer and statesman (b. Jan. 6, 1883, Vimieiro, Portugal). After receiving his degree of doctor of law at the University of Coimbra, he was appointed there as professor in 1907 and for 13 years taught Roman law, history of Portuguese law, civil and penal law and political economy. In 1920 he was transferred to the University of Lisbon where he was professor of international law (public and private) and of statistics. From 1928 to 1947 he was rector of Lisbon university. From April 1933 to April 1935 he was minister of foreign affairs, from 1944 to 1947 minister of education, and from Feb. 7, 1947, minister of foreign affairs for the second time. He represented his country at the two Paris conferences (July 1947 and April 1948) at which the Organization for European Economic Co-operation was planned and created. On April 4, 1949, at Washington, he signed the North Atlantic treaty for Portugal and said that Europe was struggling against the greatest and most dangerous mental epidemic of all time, which threatened to destroy the flower of its culture, but that she was facing her position with courage and decision. Senhor da Matta has written many books on law in Portuguese and French, and received honorary degrees of doctor of law from the universities of Madrid and Toulouse.

MAURITANIA: *see* FRENCH UNION.

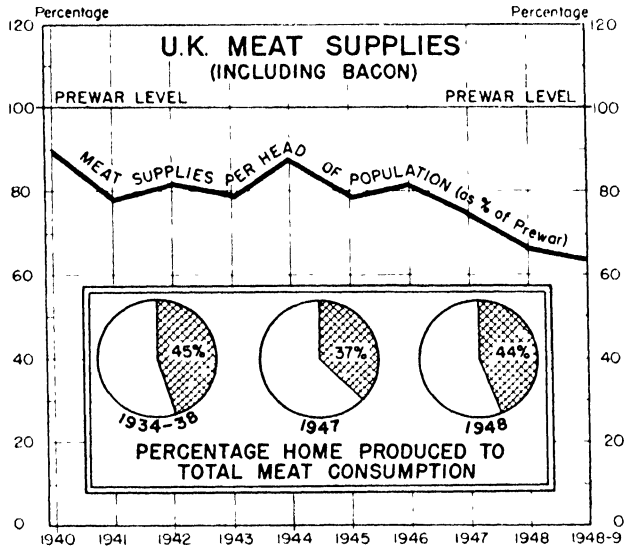
MAURITIUS. British colony in Indian ocean. Area: *c.* 720 sq. mi. Pop. (Jan. 1, 1948 est.): 438,703. including 278,803 Indians. Dependencies: area, *c.* 87 sq. mi.; pop. *c.* 14,000. Governor, Sir Hilary Blood.

A campaign to stamp out malaria was inaugurated and made good progress. A commission of inquiry into the workings of the Supply Control department cleared the controller of charges of bribery but was in general critical of the department and found apparent evidence of fraud among minor employees. The visit to the island in May of the Indian cruiser "Delhi" was the social event of the year.

Finance and Trade. Currency: 1 rupee=1*s.* 6*d.* Budget (1947-48): revenue Rs 39,856,646; expenditure Rs.49,147,495. Foreign trade (1948): imports Rs.136,265,540; exports Rs.144,345,359. Principal export, sugar. The 1949 sugar crop was expected to reach the record size of 410,000 metric tons. (J. A. HU.)

MEAT. Livestock production increased during 1949 in many countries. As a consequence meat rationing relaxed; in certain European countries consumer rationing was abolished altogether, while in others only price control remained. Great Britain's slaughterings of cattle and sheep in Jan.-Aug. 1949 were higher than the previous year so that beef supplies increased 24% and mutton and lamb 19%, while pork and bacon output more than doubled.

U. K. imports of meat of all descriptions in 1949 were 3% heavier than the previous year. Taking carcase meat only into account, the aggregate 15,114,000 cwt. was 530,000 cwt.



below 1948, a 3% reduction. The variation was due almost entirely to canned meat supplies, which were over 500,000 cwt. in excess of 1948. Beef imports, 9,189,327 cwt., were heavier by 107,000 cwt., or 1%, but those from the dominions showed a drop of more than 1 million cwt., nearly 30%. Australian supplies declined 603,000 cwt. (28%) and New Zealand 434,000 cwt. (31%). Arrivals from South America, on the other hand, were substantially increased—Argentina 665,000 cwt. (13%), Uruguay 505,000 cwt. (60%). Denmark sent 84,000 cwt., nearly twice as much as in 1948. The weight of veal imported dropped from 400,000 cwt. to 232,000 cwt. Mutton and lamb imports (7,527,886 cwt.) were down 471,000 cwt., a 6% reduction. All senders shared in the deficit with the exception of Australia, whose contribution increased by 408,000 cwt. (47%). The reduction in the case of New Zealand was 382,000 cwt (7%) and of Argentina 322,000 cwt. (23%). The weight of pork received during the year, 600,000 cwt, was nearly treble that of 1948. Other pork products except bacon amounted to 591,000 cwt, a slight increase. Deliveries of bacon, 2,772,000 cwt., were 105,000 cwt. more than the previous year. Denmark, with 1,606,000 cwt. compared with 478,000 cwt. in 1948, had taken the place of Canada.

Commonwealth. The output of beef and veal in Australia for 1948-49—nearly 11·5 million cwt.—was the largest recorded since 1938, when nearly 12 million cwt. was produced. Home consumption, however, increased to a greater extent than the increase in output and exports declined 15%. At the beginning of the new season, production figures for beef showed a fall as compared with 1948. A 15-year agreement was signed in May under which Britain guaranteed a market for Australia's exportable meat surplus.

Production of beef and veal in Canada in the first eight months of 1949 was lower than in the comparable period of 1948 and both exports and the balance available for consumption declined. The export of cattle and calves, 199,000 head, almost all to the United States, was 84% greater than the comparable period of 1948 and 81% above 1938. Pig meat production in Canada was 23% less than in 1948.

New Zealand output of beef for export in 1948-49 fell below the level reached in the two preceding seasons, the total being 20% less than in 1947-48. Production of mutton and lamb in 1948-49 was 3% greater than in the previous season, although below the record set up in 1946-47. Pork production was 20% less and the output of bacon fell slightly below the level of 1947-48.

Europe. The cattle population of Denmark—2,962,000—was 5% above 1948, although below the prewar and immediate postwar figures. The sheep population had declined to 67,000; the census of pig stocks in Oct. 1949, was 3,029,000—68% above the previous year. Exports for the first nine and a half months of 1949 were 83% over 1948, although only half the previous figure.

Cattle exports from the republic of Ireland in the first nine months of 1949 were 314,000, 30% above 1948. Exports of sheep and lambs, 71,000, although nearly double the previous period, were only about one-third of prewar. For the first time since 1942 bacon was to be sent from Ireland to the United Kingdom. The trade in pigs and bacon was in the region of 800,000 cwt.

The number of cattle in the Netherlands continued to increase, the total in Sept. 1949 being over 2·5 million higher than at any time in the previous four years. A recovery in the pig population evident in 1948 was fully maintained, and in September stood at 1,766,000. This was 55% higher than in Sept. 1948. Cattle and calves for slaughter were 22% heavier, pig meat supplies nearly double and sheep 18% heavier. In November rationing was abolished, but price control was maintained. In May a four-year bacon pact was concluded between Great Britain and the Netherlands for the supply of a minimum of 10,000 tons in 1949, 25,000 tons in 1950 and 35,000 tons in 1951. (C. A. Mo.)

United States. Production of all meats increased very moderately in 1949, the total being estimated at a minimum of 22,130 million lb., compared with 21,599 million lb. in 1948; the prewar average (1937-41), however, was only 17,675 million lb. Pork accounted for most of the increase. The total meat supply per head in 1949 was estimated at 147 to 150 lb., compared with 146·6 lb. in the previous year and 126 lb. average in 1935-39. The consumption of beef per head was estimated at 64·1 lb., slightly more than the 63 3 lb. of 1948. Veal consumption in 1949 was 8·5 lb., compared with 9·4 lb. in 1948. Pork consumption per head for 1949 was estimated at 70·2 lb., compared with 68·7 lb. in 1948.

Lamb and mutton meat production declined to 600 million lb. in 1949, or 4·0 lb. per head, compared with 753 million lb. in 1948, and an average prewar consumption of about 6·8 lb. per head. Stock sheep numbers on Jan. 1, 1949, were only 27,818,000 head.

U.S. exports of meats were small, estimated at 73 million lb. (carcase weight) during 1948-49, compared with 152 million lb. in the preceding year and 1,376 million lb. in 1945-46, lower even than the 123 million lb. prewar average.

Because of the larger number of pigs, the production of lard in 1949 was forecast at 2,850 million lb., as compared with 2,526 million lb. in 1948 and a prewar average of 2,091 million lb. Exports of lard were very large, amounting to 513·2 million lb. in the period Jan.-Sept. 1949, as compared with 235·1 million lb. during the same period of 1948. Storage stocks in December were 38,285,000 lb., less than half those for 1948. (*See* also LIVESTOCK.) (J. K. R.)

MEDALS: *see* DECORATIONS AND MEDALS.

MEDICAL ARTICLES: *see* ALIMENTARY SYSTEM, ANÆMIA; ANÆSTHESIOLOGY; ARTHRITIS; BACTERIOLOGY; BIOCHEMISTRY; CANCER; CHEMOTHERAPY; COLD, COMMON; DENTISTRY; DERMATOLOGY; DIABETES; EAR, NOSE AND THROAT, DISEASES OF; ENDOCRINOLOGY; EPIDEMICS; EYE, DISEASES OF THE; FOOD RESEARCH; GENETICS; GYNÆCOLOGY AND OBSTETRICS; HEART DISEASES; HOSPITALS; INDUSTRIAL HEALTH; INFANTILE PARALYSIS; LEPROSY; MEDICINE; MENTAL DISEASES; NATIONAL HEALTH SERVICE;

NERVOUS SYSTEM; NURSING; OSTEOPATHY; PHARMACY; PHYSIOLOGY; PLAGUE; PNEUMONIA; PSYCHIATRY; PSYCHOLOGY; PSYCHOSOMATIC MEDICINE; SURGERY; TROPICAL DISEASES; TUBERCULOSIS; UROLOGY; VENEREAL DISEASES; VETERINARY MEDICINE; X-RAY AND RADIOLOGY.

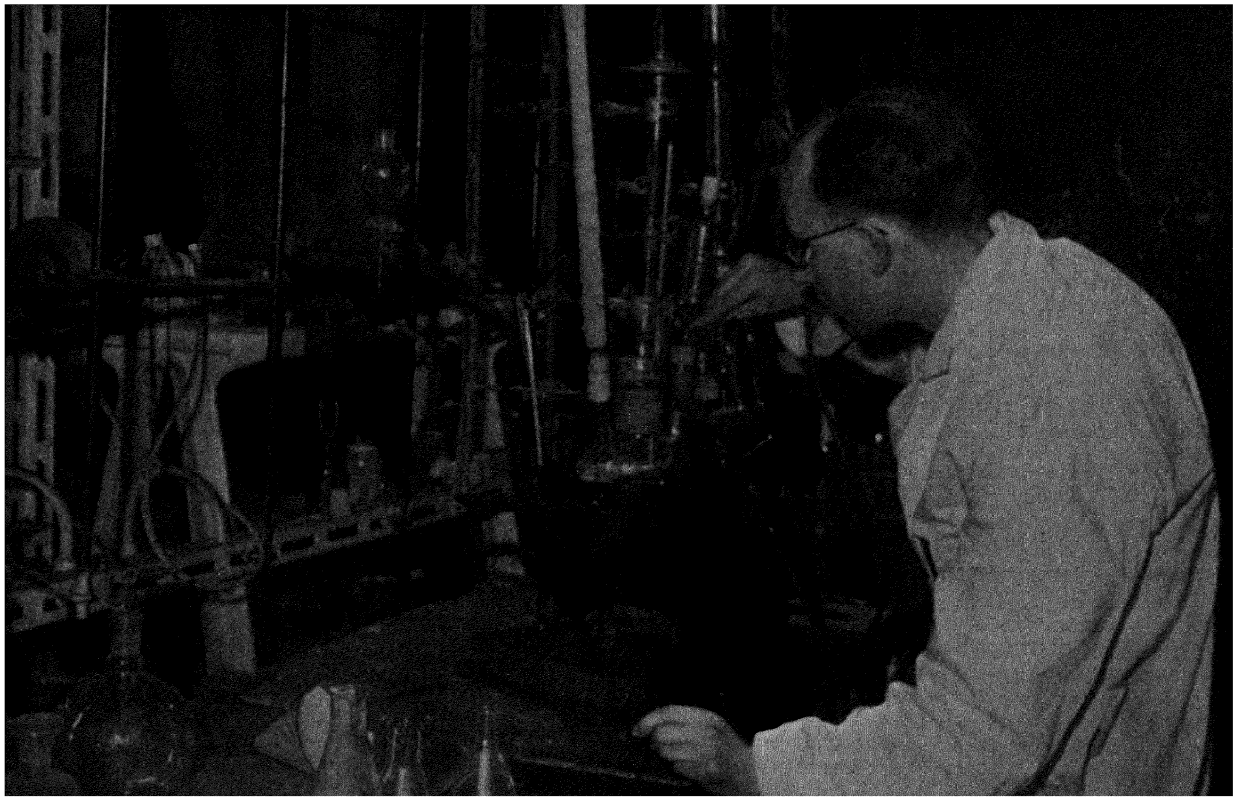
MEDICINE. *Cortisone.* The most interesting medical event of 1949 was the announcement by P. F. Hench and his colleagues at the Mayo clinic in Baltimore, that injections of E. C. Kendall's compound E or cortisone in rheumatoid arthritis produced remissions of the symptoms in a few hours. It was significant because this painful and crippling disease had long resisted all attempts at cure and also because never had so much interest been aroused by a report of such a therapeutic trial on so few cases. Only 14 patients were treated, all of whom benefited. The smallness of the trial was due to the great cost of the material which was produced by a 36-stage synthesis from desoxycholic acid, a scanty fraction of ox bile. The yield of the process was so small that 13,000 tons of cattle would be needed to provide enough cortisone to treat a patient for a year. The estimated cost of treating a patient was about £1,500 a week. Unfortunately too, the evidence so far was that cortisone was not a cure but acted in a way similar to that of insulin which must be taken for the rest of the patient's life. It was later announced that cortisone could be made by a shorter synthesis from a glucoside sarmentogenin, found in the seeds of a tropical plant, *Strophanthus sarmentosus.* Although this source would yield cortisone at less cost it would still be too expensive for any wide use. The plant takes five years to mature so cultivation was not a simple answer to the production problem. Besides the many clinical questions raised by cortisone, it posed a multitude of chemical and production puzzles and stimulated the best brains in the field of steroid chemistry to seek their solution. Parallel to this discovery came the announcement, also from the Mayo clinic, that the adrenocorticotrophic hormone (A.C.T.H.) seemed to have much the same effect as cortisone itself. This too was a substance of great scarcity, being obtained only from the tiny pituitary glands of animals. No chemical method yet had been found of making it. There were indications that cortisone and A.C.T.H. would be of benefit in other conditions besides rheumatoid arthritis. This was probably only the beginning of what might prove to be one of the most epoch-making discoveries of medicine. But it was important to realize that it would be a long time before either of these substances, or similar drugs derived from them, could be applied in ordinary practice. Although this was of small comfort to sufferers from rheumatoid arthritis, at least it did give a ray of hope which was not there before.

Tuberculosis Prophylactic. In 1908 two French bacteriologists, A. Calmette and C. Guérin, produced a vaccine " B.C.G." from the tubercle bacillus which, they claimed, was harmless to man but could induce immunity against the dread disease of tuberculosis. For a number of reasons this vaccine was never used on any scale in Great Britain, although it found favour elsewhere, especially in Scandinavia. During 1948-49 a large scale trial was started by the Ministry of Health in England. So as to keep strict critical control of the test and yet to meet the need of those most exposed to risk, the application of the vaccine was confined in the main to medical students and to the nursing staffs of hospitals. Small supplies for individual use were given to chest specialists to use on their own responsibility, for example, for contacts with tuberculosis cases. Some years would have to elapse before all the answers to this trial could be obtained.

Radiological Advance. The first synchrotron in the world to be built and used for medical research was installed in the Royal Cancer hospital, London, under the auspices of the Medical Research council. This 30 million volt instrument produced X-rays of great power and intensity. It differed from conventional X-ray machines which could not effectively be made for potentials above about a million volts. This remarkable apparatus was first used for varied biological researches. These, *inter alia,* gave data of importance in planning the later application of the machine to the treatment of patients with cancer in those organs where the particular properties of the rays had special advantage. The possibilities offered by this immensely powerful apparatus were very wide. It was the first of two such instruments.

Blood Transfusion. During World War II great advances were made in the technique of blood transfusion, and its uses were extended. The interest this aroused continued in 1948 as was shown by work on further refinements in blood typing and on the genetic Rh factors which may cause the death of new born infants. Another line of investigation resulted in the standardization of methods of preparing several fractions of human blood. In Great Britain this brought these fractions within the scope of the Therapeutic Substances act. Owing to certain difficulties in using blood for transfusion many possible substitutes were tried. In general they were unsatisfactory for one or more reasons. For some time the Swedes had been investigating Dextran (a long chain molecule prepared from sugar) as a blood plasma substitute; and in 1948 some work was published in America and elsewhere which, although critical in some respects, showed that Dextran was an appreciable step nearer the goal of a blood plasma substitute. In the autumn it was made commercially available in Great Britain. This should make possible the wide experience necessary before a final assessment of such a substance could be reached.

Anti-histaminics. In 1910 when Dale (now Sir Henry) advanced the theory that the effects of allergic disorders were produced by histamine he opened up a far reaching vista of research which led to many important discoveries. Not least among these was the introduction in 1948 of several powerful new drugs with many applications. The simplest explanation of the basic idea was that by a antigen-antibody reaction the substance histidine in the tissue cells released histamine and this produced the broncho-spasm in asthma, the skin weals in urticaria and the many other signs and symptoms now classed together as allergic. In 1937 D. Bovet and A. M. Staub developed the first anti-histaminic drug, that is, a substance which blocks the responses of the tissues to histamine yet which in the same dosage range has little or no apparent effect on the normal body. This offered effective therapy in allergic conditions which had hitherto presented many difficulties in treatment. These disorders included hay fever, some asthmas, angioneurotic oedema, chronic urticaria, pruritus, neurodermatitis, some neuralgias and some intestinal troubles. In addition to successful reports on these there were indications of benefit in the symptomatic treatment of Parkinson's disease and in the nausea and vomiting of pregnancy. A particularly valuable discovery in 1948 was the chance one that Dramamine and Anthisan were effective preventives of motion sickness; and they soon found wide-spread use for abolishing sea sickness. With these as with other anti-histaminics, large doses could produce side effects such as giddiness and somnolence; so they had to be used with care and it was inadvisable to take them without the guidance of a doctor. There were also hints that the sphere of usefulness of the anti-histaminics might be still wider; *e.g.,* in migraine and some forms of rheumatism. Among other new anti-histaminic drugs put on the market (though all were not available in Great Britain) were Antistin, Pyribenzamine, Neohetramine, Neoantergan, Histadyl, Chlorothen, Tagathen, Phenergan, Trimeton, Theophorin and Thenylene. Chlortrimeton



A scene in the laboratory at the Imperial Chemical Industries works near Manchester where the new drug Antrycide, which would provide immunity against trypanosomiasis (sleeping sickness), was being manufactured.

combined with aspirin and caffeine in a compound called Coricidin was tested by the U.S. navy for treating the common cold and first reports were favourable. Owing to the protean nature of this condition however, further research was needed. But over all, it was unquestionable that in the antihistaminic drugs a most useful company had been added to the armamentarium of the physician.

Vitamin B_{12}. In 1948 it was noted that in America, E. L Rickes had isolated vitamin B_{12} from liver and that this substance was effective against pernicious anæmia. At the same time E. Lester Smith in England had discovered two crystalline factors from liver, and one of these was identical with Rickes' B_{12}. Further work showed that injections of extremely small amounts of the vitamin not only make the blood picture of pernicious anæmia normal again but improve the whole appearance and strength, mental alertness and appetite of a patient. There was even improvement in patients who had combined degeneration of the spinal cord. The factor was thought to be the same as, or closely associated with, the " animal protein factor," a vitamin not chemically identified, which promoted growth of chickens and rats. Research showed that there were more widely distributed sources of B_{12} than liver. The most interesting discovery was that it could be isolated from a by-product of the culture of *Streptomyces*, such as was used in the manufacture of streptomycin. This would undoubtedly lower the cost so much that it should be possible to make the vitamin generally available. If liver was the sole source of B_{12} this would not be practicable owing to the extremely small yield.

Antibiotics. Further work continued on penicillin, for example, by giving it as an inhalation in the form of a fine dust or an aerosol mist. Procaine penicillin suspended with aluminium stearate became firmly established as it made possible the painless injection of a large dose with a " depot " action, that is, delayed absorption enabling the necessary blood levels to be maintained with fewer injections. The uses of streptomycin were extended beyond tuberculosis and good results were obtained in *B.coli* infections of the urinary tract, hitherto most obdurate towards treatment. Increase of supplies in Great Britain made it possible to release this antibiotic from restrictions on its use which the government had had to enforce. A. Hirsch and A. T. R. Mattick reported that nisin, an antibiotic developed entirely in Great Britain, was active against experimentally produced tuberculosis. This substance promised well if production problems could be solved. In America S. A. Waksman discovered another antibiotic, neomycin, which also appeared to be active against tuberculosis. A great chemical triumph from America was the synthesis of chloromycetin (Chloramphenicol), the antibiotic which was effective against enteric fevers and rickettsial infections, psittacosis and brucellosis. There had never before been any specific against these diseases. Aureomycin, another relatively newcomer to this field, had much the same range of activity as chloromycetin and like it could be given by mouth. The chief disadvantage of these promising drugs was their high cost.

As an aid to the general and psychological treatment of alcoholism a new drug was introduced which made subsequent doses of alcohol extremely unpleasant to the patient who was, indeed, made to feel extremely ill. This was tetraethylthiuramdisulphide, also known under the proprietary names of Antabus and Antalco. Although it was undoubtedly effective this was a drug which had to be treated with knowledge and respect and fatalities were reported from its use.

Some other medical fields in which the year saw great activity were geriatrics or the science of the diseases peculiar to old age; psychosomatic medicine which stressed the influence of the mind on the production of physical disease; the epidemological researches in Great Britain by the Ministry of Health, the Public Health Laboratory service and the Medical Research council, particularly into food poisoning and the common cold; and the work of the Technical commissions of the World Health organization, for example, on the nomenclature of disease (a matter of great importance in pathology and medical statistics) and on the unification of pharmacopoeias. (W. P. K.)

United States. The most important announcement of an advance in medicine during 1949 was the control of rheumatoid arthritis by use of an extract from the adrenal gland called Cortisone or an active principle from the pituitary gland called ACTH or the adrenocorticotrophic hormone (*see* above).

It was discovered in 1949 that anti-histaminic drugs such as benadryl, pyribenzamine, chlor-trimeton and many others could, when used early, avert the common cold or cure it. The food and drug administration permitted the public sale of these drugs, including mixtures of anti-histaminic drugs with the common ingredients of cold tablets such as aspirin and phenacetin and caffeine as well as mixtures with nose drops and creams. Allergists asserted, however, that at least one-third of the people taking anti-histaminic drugs suffered drowsiness and warned against the possible toxic effects of such drugs when used without medical controls or over long periods of time.

A third announcement in 1949 which attracted much attention was the elaboration in Denmark of a drug called Antabus, technically known as tetraethyl thiuram disulphide, which created an unpleasant reaction in persons who had previously taken alcohol.

Dramamine, a combination of an anti-histaminic drug with aminophyllin, established its usefulness in controlling sea-sickness and air-sickness and it was also being tried with some success in controlling the nausea of pregnancy and the dizziness associated with Meniere's disease.

Continued work with streptomycin indicated its effectiveness in several forms of tuberculosis. Extensive studies made by the Veterans' administration showed that streptomycin combined with a drug discovered in Sweden called para-amino salicylic acid was more effective in a considerable number of cases than either drug used alone

Attention continued to be focused on the antibiotic drugs and their usefulness in a variety of conditions. Penicillin continued to be the mainstay against most germ infections. Antibiotic drugs were being sought in a variety of sources, including fungi, germs such as the *Bacillus subtilis* (which yields bacitracin), also in ragweed, bananas and sweet potatoes.

Aureomycin was found especially effective in Rocky Mountain spotted fever, typhus, atypical pneumonia, undulant fever, syphilis, venereal granuloma, herpes, pemphigus and whooping cough.

Chloromycetin, renamed chloromphenicol, was also found useful in many of these conditions, and especially in the treatment of infection with the germ of typhoid fever

Several new drugs were being tried in hypertensive disease, or high blood pressure, with particular interest centred on veratrium viride and dihydroergocornine, which seemed to have the ability to put the sympathetic nervous system out of action, thus achieving to a considerable extent the same result accomplished by surgical procedures on the sympathetic nervous system that had attracted interest for some years.

Research with radioactive isotopes continued Radioactive iodine became the main factor in the control of disturbances affecting the thyroid gland and was being used instead of operative procedures for excessive action of the thyroid, called hyperthyroidism. Radioactive isotopes were also used extensively in studying the physiology of the body and in tracing drugs, vaccines and other preparations injected into the body to determine their effectiveness.

Especially interesting in the field of research was the introduction, almost as a routine procedure, of injection directly into the veins of the local anæsthetic substance called procaine. Procaine was used especially for the control of pain in burns and after operation in a variety of inflammatory conditions. The drug was tested also for producing anæsthesia in childbirth, for frostbite and asthma and in painful cases of infantile paralysis. Procaine given intravenously has the special power of inhibiting action of the sympathetic nervous system. When the drug is given by injection into the vein, there is a sensation of warmth throughout the body five to seven minutes later, also dilation of the pupils of the eyes and some lightheadedness, followed by relaxation. Paradione was prominent in the research field during 1949 and was used for the treatment of epilepsy; other drugs were marphan as a substitute for morphine, and Vitamin B_{12} or Cobione as an effective treatment in pernicious anæmia and in other anæmias. Calciferrol, a highly concentrated vitamin D preparation, was found useful in lupus vulgaris. Two new drugs, parpanit and Artane, were tried for spasmodic conditions and tremors in shaking palsy and similar diseases. In amœbic dysentery a new drug called milibis (bismuth glycolyl arsenilate) was recommended.

Among surgical procedures, greatest interest continued to attach to operations on the blood vessel system, including shunt operations such as those used for the control of blue babies, also an operation for coarctation of the aorta. New devices enabled partial clamping of this great blood vessel during which operative procedures could be carried out.

Other surgical procedures in the research field during 1949 included prefrontal lobotomy by a variety of techniques to change the functions of the brain as a mechanism for the control of depressive and other forms of mental disturbances. Antonio Moniz of Lisbon, Portugal, who devised this procedure, received the Nobel prize in medicine for 1949. The prize was shared with R. W. Hess for his discoveries of the factors in the nervous system concerned in sleep.

Among new devices which were the focus of attention were electrosonic waves for inducing heat and various changes in the tissues of the body; and also the jet injectors for injecting drugs into the body without breaking the skin.

In surgical procedures for removal of portions of the lung, the operation was improved by the use of Lucite balls in a polythene sac to fill the area removed in a surgical operation called thoracoplasty, an operation performed in severe tuberculosis and also in abscess of the lung.

A gallstone detector was devised in the form of a probe which gives off an amplified sound when the probe is passed into the gall ducts and touches a stone.

Research on the causes of disease centred on the observation that poliomyelitis or infantile paralysis is not caused by one virus but by several viruses; the development of a vaccine against the disease would involve determination of the specific form of virus responsible for any individual epidemic.

At Notre Dame university, South Bend, Indiana, experiments were conducted on cats and chickens with a view to raising animals in an atmosphere entirely free of infective germs. Noteworthy observations included the fact that chickens raised under such conditions developed a form of jitters not occurring under ordinary conditions. The theory

was that the absence of germs permitted the growth of viruses which were specifically dangerous to the nervous system Animals kept under such conditions, however, showed complete absence of dental decay. (*See* also cross reference MEDICAL ARTICLES.) (M. FI.)

MELBOURNE, capital of the state of Victoria, Australia. Pop. (June 30, 1947 census): 1,226,923. Lord Mayor, J. S. Disney.

The new governor for Victoria, Lieut. General Sir Dallas Brooks, took up residence in Melbourne in October. Following a series of articles in the Melbourne *Herald*, by a former Communist leader, Cecil Sharpley, which alleged Communist ballot-rigging in trade union elections, the Victorian government appointed a royal commission of inquiry into Communist activities. Hearing of evidence by the commissioner, Mr. Justice Lowe, sitting in Melbourne, started on June 20 and continued into 1950. A controlling interest in one of the three Melbourne morning newspapers, the *Argus*, was acquired by the London *Daily Mirror*.

As in Australia generally full employment and economic prosperity continued, coupled with an acute labour and housing shortage. 14,646 houses were completed in Victoria during 1948-49. Progress was made with the Kiewa power scheme. The coal strike reduced Melbourne's gas supply to a very low level. The Victorian government later decided to introduce a German process for the gasification of brown coal, of which Victoria has large reserves.

The Olympic Games for 1956 were allotted to Melbourne: the decision would involve the construction of many new hotels, sports facilities and other considerable expenditure.

The number of students at Melbourne university was 9,124; approximately 400 less than in 1948. An important experiment in decentralization came to an end with the decision to close the Mildura branch of Melbourne university, which had trained first-year students of a number of faculties since 1947. The decision was caused by the prohibitive cost and the problems of dispersal of staff and equipment.

There were many theatrical and musical events of importance, which included a return visit of an Italian opera company, a visit of the Shakespeare Memorial company from Stratford-on-Avon and concerts by a number of famous visiting conductors, pianists and singers. (W. FR.)

MENTAL DISEASES. Developments carried on during 1949 from the well established leucotomy included topectomy or resection of cortical grey matter which was done in several American and at least one British hospital ; undercutting of the cerebral cortex which was practised by W. B. Scoville in America, and, calling it thalamotomy, H. T. Wycis at Temple university, Philadelphia, reported an operation involving the use of a stereotaxic instrument whereby it was possible to produce partial electrical destruction of the dorsomedial nucleus of the thalamus. In several publications Professor A. Meyer of the Institute of Psychiatry in London described the neuropathological findings in cases which had come to autopsy, and paid particular interest to the use of posterior cuts in leucotomy and to the anatomical correlations of improvement in this operation. Posterior cuts appeared to have been responsible for certain undesirable symptoms; he found nothing to justify claims to the localization of function within the frontal lobe. Persistent personality changes were found to occur after bilateral lesions of the frontal lobes and there seemed to be a quantitative relationship between the personality change and the amount of cortex cut off. This change showed a positive correlation with the degree of improvement found.

Much interesting biochemical work was published, including W. R. Ashby's paper, which won the Burlingame prize, on the effects of electrical treatment on cortin and ketosteroids; these substances were found to be excreted in increased amount during the first few days of the treatment and this brisk outpouring was associated with a greater tendency to clinical recovery. Derek Richter published articles on the brain metabolism during emotional excitement and sleep with particular reference to the amount of lactic acid found in animals killed under these conditions. He showed in another paper that there was no evidence that cerebral stimulation caused a liberation of ammonia into the cerebro-spinal fluid and that the cerebro-spinal fluid ammonia level was not a reliable indicator of the degree of cerebral irritation.

In therapy, curare preparations and a similar substance C.10 were used to reduce the muscular violence of electrical treatment; inhalation of CO_2 was advocated for the investigation of certain cases and several new substances were tested for their therapeutic value including parpanit which was used in Parkinsonism without very great improvement. Myanesin proved useful in certain conditions but it had to be given by injection and its effects quickly wore off. Antabuse was used for the treatment of alcoholics; this method of getting the patient to take a daily tablet which, if combined with even the smallest amount of alcohol produced an intensely unpleasant reaction, was ingenious, but there still seemed to be some dangers associated with its use.

Much work was done with the electroencephalograph and the International Electroencephalograph conference in Paris in September produced several valuable contributions including those of Denis Hill of the Institute of Psychiatry.

An account was published of the interesting Danish experiment in the treatment of criminal psychopaths by committing them to a psychopathic prison with an indeterminate sentence; the results had so far proved encouraging.

The organization of the mental health services consequent upon the division of the country into 14 regions under the National Health Service act continued and the regional psychiatrists justified their appointments.

Much material was being collected throughout the year for presentation before the International Congress of Psychiatry to be held in Paris in Oct. 1950. (*See* also PSYCHIATRY; PSYCHOSOMATIC MEDICINE.) (J. G. H.)

MENZIES, ROBERT GORDON, Australian statesman (b. Jeparit, Victoria, Dec. 20, 1894), was educated in the state schools of Victoria, at Grenville college, Ballarat, and at Wesley college, Melbourne. In May 1918 he was called to the Victorian bar and high court of Australia, and 11 years later became a K.C. In 1928 he was elected to the Victoria Legislative Council and in the following year to the Victoria Legislative Assembly. He was minister without portfolio, 1928-29, and attorney general, minister for railways, and deputy prime minister of Victoria, 1932-34. In the latter year he was elected to the federal House of Representatives for Kooyong, and from 1935 to 1939 was attorney general and minister for industry. He resigned in March 1939 in protest against a decision to postpone a national insurance scheme but retained the portfolio of co-ordination of defence. After the death of J. A. Lyons on April 7, 1939, Sir Earle Page was prime minister until April 26, when he was succeeded by Menzies who had been elected leader of the United Australia (later Liberal) party. He resigned on Aug. 29, 1941, after the Labour party had refused to join a coalition government, and was succeeded by Arthur Fadden, leader of the Country party. Menzies remained as minister for co-ordination of defence until the fall of the Fadden ministry on Oct. 7, 1941. From 1943 he was leader of the Federal

opposition in the House of Representatives. The general election of Dec. 10, 1949, resulted in a defeat for the Labour government led by J. B. Chifley (*q.v.*), and Menzies was sworn-in on Dec. 19 as the head of a coalition of the Liberal and Country parties.

METAL PRODUCTION AND PRICES: *see* MINERAL AND METAL PRODUCTION AND PRICES

METALLURGY. A few of the more important developments in the field of metallurgy during 1949 are summarized in the following paragraphs.

Aluminium Steel sheets coated with aluminium were produced by hot-rolling two sheets of aluminium foil on to the surfaces of a steel strip, after passing the strip through a cleaner bath and an electrolytic cell which plated a thin layer of electrolytic iron on the surface of the steel.

Cobalt. A new plant was completed in the United States for the treatment of cobalt ores, and a new smelter was nearing completion in Canada, to handle cobalt-silver-arsenic ores from the cobalt district. The latter plant was expected to work new ores and to rework old tailing piles which still contained some ore.

Gallium. Gallium was being produced and sold in small quantities, after recovery as a by-product in the treatment of bauxite ores.

Magnesium. New uses for magnesium included its employment for lightweight components in textile looms.

Titanium. Marked advances were made in methods for the production of pure titanium metal, and extensive research was under way on its possible commercial applications.

Substitutes. The shortage of steel during 1949 resulted in a considerable need to substitute aluminium, especially in sheets. This substitution might have gone further, had aluminium supply been plentiful. In the making of containers for repeated use, such as milk cans, tin plated steel was being replaced by stainless steel, for greater strength, lighter weight, freedom from corrosion and upkeep and a useful life that was expected to last two to four times as long.

Probably the most frequent substitution was in the replacement of metals by plastics. This movement was advancing rapidly and extensively, not only in toys and gadgets, but also in industrial equipment such as gears and other machine parts.

The U.S. army was reported to be testing a plastic pipe, for possible use in combat oil lines. The high cost was offset by its light weight, its ease of handling and laying, besides the fact that it saved steel consumption.

Welding and Soldering. Difficulties in soldering on a metal surface plated with passivated zinc, such as a radio chassis, were overcome by devising a special technique for resistance welding. An iridium-base solder was also developed which made possible the soldering of glass to glass or glass to metal. (G. A. RO.)

METEOROLOGY. The oustanding events in meteorology and the principal results of research during 1949 can be grouped conveniently under the sub-headings Experimental Meteorology, Synoptic Meteorology, Applied Meteorology, Theoretical Meteorology and Research, International Co-operation and Weather of 1949.

Experimental Meteorology. Experimental methods that have given revolutionary results in other physical sciences have had only limited use in meteorology although there have been repeated efforts to find a laboratory approach to the secrets of the atmosphere. Renewed attacks in experimental meteorology were reported and the approach gained ground during 1949. As in other sciences there were certain problems in meteorology that could be isolated and analysed step by step in the laboratory and eventually broken down into their components.

Work in experimental meteorology approached laboratory techniques in two ways: one made use of radar, rocket, rawinsonde, artificial modification of clouds and other free air experiments, in an effort to make the atmosphere itself the meteorological laboratory, the other involved a more concerted effort to devise conventional laboratory techniques for simulating if not duplicating free air conditions.

Among the latter were the laboratory studies of the rates of fall and rates of evaporation of water droplets and a new experimental determination of the terminal velocities of falling raindrops. This research also gave new and more exact measurements of the electrical charges on falling raindrops. Other studies repeated measurements of the size and distribution of cloud droplets and their behaviour in an electrical field. Another interesting research project was a refinement of earlier attempts to simulate the circulation of a fluid on a rotating globe with opposing currents set up by applying heat at one place. The apparatus was designed to duplicate the general features of the circulation of the atmosphere about a polar hemisphere and to study the flow along the boundaries of opposing currents. These laboratory studies, although not yet conclusive, were aimed at determining quantities fundamental to full understanding of the general circulation of the atmosphere, the formation of fronts and cyclones and the condensation and coalescence of moisture into precipitation. The results of these and other experiments were published in the *Journal of Meteorology* and the *Bulletin* of the American Meteorological society.

Research that used the atmosphere itself as the "laboratory" was greater in scope and diversification than meteorological research in the usual laboratory sense. Experiments in the modification of clouds, the conversion of sub-cooled cloud droplets into ice crystals and the precipitation of rain and snow from shower type clouds were carried on more systematically and with more thorough scientific examination of the results during 1949 than in the preceding year. Methods were essentially the same although refinements in techniques were reported. The chemical agents most commonly used in treatment of shower clouds from aircraft flying above or through the cloud were dry ice and silver iodide. In experiments designed to diffuse condensation nuclei into the cloud from generators on the ground, silver iodide was generally used.

Unfortunately scientists disagreed about the results. Project Cirrus, financed by the United States Office of Naval Research and the Signal corps of the army, reported success in causing rain to fall from shower-type clouds in southwestern United States, but the Cloud Physics project of the air force and the Weather Bureau, in extensive tests in Alabama, California and Ohio, designed to investigate aspects of the subject not duplicated by Project Cirrus, found little evidence that artificial means had been successful in increasing rainfall sufficiently to be of commercial value, except possibly under very exceptional circumstances. In Canada, under the National Research council, field tests were reported in which "seeding" clouds with dry ice had caused rain in considerable quantities.

Although professional "rainmakers" of the past have claimed power to bring rain clouds even though skies were clear, no reputable rainmaker in 1949 claimed more than a means of inducing or increasing the fall of rain from clouds formed by natural causes. Artificial methods were not applied except when weather conditions were such that cumulus clouds were already present. Showers as distinct from steady, light rain come from cumulus clouds. Thus the rainmaker usually went to work when the weather was favourable for the development of showers without artificial

TABLE I.—MEAN MONTHLY TEMPERATURES °F.

	1948 July	Aug.	Sept.	Oct	Nov.	Dec	1949 Jan	Feb	March	April	May	June
Fort William	57 5	55 5	53 5	48 6	45 5	42 7	41 3	42 1	41 9	46 7	49 5	56 1
Inverness	57 1	54 1	53 3	46·8	44·8	41 3	40 1	41 1	40 3	46 8	48 9	53 5
Perth	58 9	56 7	53 9	47 9	43 2	39 9	40 3	41 1	40 9	48 1	51 3	56 9
Edinburgh	57 7	55 5	54 1	48 4	45 5	42 3	41 1	41 7	39 9	47 8	50 7	55 3
Oban	57 2	56 3	53 5	49 2	47 3	43 7	42 5	42 4	42 9	46 7	50 3	57 3
Glasgow	59 3	56 7	53 9	48 2	43 7	40 3	40 0	41 1	41 2	47 4	51 5	58 4
Cardiff	60 7	60 1	58 0	51 7	46 9	43 5	43 3	43 1	43 4	—	—	61 3
Llandudno	60 4	59 9	58 3	52 7	49 7	45 0	44 9	45 0	43 7	50 9	51 7	59·1
Berwick-on-Tweed	57 5	55 9	54 9	48·9	44 3	41 0	41 1	41·9	40 5	48 9	50 0	54 3
York	60 9	59 1	56 9	50 9	44 3	41 8	41 3	42 1	41 1	50 9	52 9	59 5
Nottingham	61 3	59 7	57 8	50 6	44 7	43 1	41 7	43 1	41 1	51·3	52·7	60 1
Birmingham (Edgbaston)	60 1	58 7	57 1	50 0	45 1	41 9	41 7	42 5	40 7	49 9	52 1	59 7
Oxford	61 9	60 7	58 7	50 5	45 3	43 1	42 5	42 7	41 6	51 4	52 9	60 7
Kew Observatory	62 7	61 5	59 0	51 3	45 6	44·1	42 7	42 5	42 3	52 3	53 7	61 8
Tunbridge Wells	60 1	59 7	57 1	49 8	43 9	41 9	40 2	40 7	40 2	50 7	51·8	58 4
Bournemouth	62 3	60 5	58 9	51 8	47 8	44 1	43 9	43 5	43 3	51 5	53 1	60 6
Ringway (Manchester)	59 2	58 5	55 7	49 5	45 3	41 4	41 3	42 5	40 5	49 1	51 5	58 3
Bristol	60 9	60 1	57 9	51 1	47 4	43 5	42 8	43 0	42 3	50 5	52 3	60 1
Aldergrove	57 8	57 3	54 9	50 1	46 9	42·3	42 3	42 6	42 7	48 1	50 5	57 5
Armagh	58 5	57 9	55 3	50 0	47 1	42 3	43 0	43 3	43 6	49 3	51 2	58 7

aid and it was difficult to determine whether the cloud treated with dry ice or silver iodide gave rain as a result of the treatment or whether it would have developed in exactly the same way from natural causes. It was well known that the moisture necessary for heavy rainfall comes from vast quantities of humid air brought into the shower cloud (or the cyclonic system in the case of widespread rain) by a comparatively large scale inflow of air from other regions, sometimes from far away. Since rainmakers did not usually claim to set in motion by artificial means the large scale circulation necessary for heavy rainfall except as a possible consequence of the initial rain which they did claim to produce, meteorologists pointed out that artificial rainmaking had not yet shown conclusive evidence or made a scientific case for its claims. In their experiments rainmakers usually selected for their tests those clouds which appeared most promising as shower producers. Meteorologists also pointed out that few commercial rainmaking operations had been accompanied by comprehensive and impartial observations of results and by documentation of unsuccessful as well as "successful" attempts. The general opinion of scientists familiar with the subject appeared to be that the quantity of rain might be increased locally by artificial means under certain relatively infrequent circumstances when naturally formed clouds were near the shower stage and air currents in the region were favourable for shower development, but in no case was there reason to believe that artificial rainmaking was a solution for widespread drought when atmospheric conditions were unfavourable for rain. However, intensive research into this important but controversial subject was being continued.

Experimental meteorology during 1949 also announced new altitude records for high level sounding balloons. In Project Skyhook the Office of Naval Research reported soundings at altitudes slightly over 100,000 ft., while the Army Signal corps published the results of one sounding in which the balloon was computed to have reached 140,000 ft., the highest altitude ever recorded by a sounding balloon. The naval balloons were fabricated from very thin polyethylene sheets only ·001 in. in thickness. Unlike rubber sounding balloons they did not expand much as they ascended. Their maximum size inflated was approximately 100 ft. in vertical diameter and 70 ft. in horizontal. When they reached their equilibrium altitude they could remain at constant level for many hours and by suitable design in size, weight and other characteristics it was possible to manufacture balloons for any desired intermediate altitude within rather rough limits. This constant altitude balloon provided a new device for exploring the atmosphere especially with reference to wind flow for long distances at high altitudes.

The Signal corps high level balloons were made of neoprene latex. At maximum altitude their size was about 75 ft. in diameter. Their lifting capacity was not as great as that of the larger naval balloon. In addition to their measurements of atmospheric pressure and temperature and their evidence of wind discontinuities not previously suspected in the upper air, these balloons were used for other physical research in ozone distribution, ionization and cosmic radiation. Too costly for everyday soundings, these high level balloons were still in the experimental stage.

Among other developments during the year in experimental meteorology were practical studies in the use of radar for

TABLE II.—MONTHLY TOTALS OF RAINFALL IN INCHES

	1948 July	Aug.	Sept	Oct.	Nov.	Dec	1949 Jan	Feb.	March	April	May	June
Fort William	7 05	8 51	13 78	12 59	7 47	9 73	14 22	14 11	4 24	12 00	4·05	2 55
Inverness	3 17	6 06	2 24	2 49	1·87	3 16	4 65	2 29	2 30	1 60	1 82	0 90
Perth	4 44	7 86	2·98	3 47	1 60	4 85	1 98	1 90	1 44	1 38	2 09	1·80
Edinburgh	1 94	9 40	2 58	1 61	2 33	2 20	2 16	1 67	0 80	1 07	1 90	1 01
Oban	4 36	5 98	9·59	10 17	6·01	8 51	9 32	7 61	3·34	9 54	3·41	1·67
Glasgow	3·17	6 61	6 60	5 19	3·38	5 50	3 72	4 05	2 07	3·76	2 13	1 19
Cardiff	4 29	5 65	4 18	5 61	2 45	4 95	1 24	2 37	1·87	3 02	3·71	0 65
Llandudno	1 55	2·72	2·01	2 10	1·45	4 25	2 36	1·26	1·66	2 11	1·87	0 42
Berwick-on-Tweed	1 39	8 94	1 85	2 45	1·40	1 27	1 10	0 50	0 76	0 61	0·77	1 14
York	1·19	3·77	1·20	1 31	0 99	2 13	0 68	0 62	1 45	2 48	1·80	0·57
Nottingham	1·14	3·60	2·55	1 95	1·21	2 76	1 06	0 53	1·26	1·72	2 07	0·45
Birmingham (Edgbaston)	1·83	4·39	2 81	2 83	1·54	5 00	1 38	0 77	1·57	2 39	2 21	0 25
Oxford	0 85	3·43	2 48	2 33	1 50	2·70	0·91	1 01	1 70	1·31	2 41	0·46
Kew Observatory	1 19	2 87	1·24	1·83	1·59	2 02	1·20	0 88	0 92	1 46	2 30	0 50
Tunbridge Wells	1 27	3 80	2·10	1 86	1·68	4 27	0 97	1·43	0·92	1·67	1 50	0·68
Bournemouth	1 18	3·44	2·50	1 95	1·61	5·16	0·76	1·28	1 48	1·78	1 68	0·39
Ringway (Manchester)	3·06	4·48	2 33	2·13	2 12	2·91	2 22	1·40	1 91	2 77	4 22	0 94
Bristol	1 14	4·44	2 29	4 29	1·74	5 51	1·03	1·47	1·47	2 15	3·73	0·41
Aldergrove	2 51	2·89	4·30	3 17	2 53	4 48	2 48	1·74	2 19	1 94	1·85	0·58
Armagh	2·46	3·50	2·64	2 26	2·64	4 52	2·41	2 51	2·11	2 18	1 79	0·98

TABLE III.—MEAN MONTHLY TEMPERATURES °F.

	1948 July	Aug	Sept.	Oct	Nov.	Dec.	1949 Jan.	Feb.	March	April	May	June
Hamburg	63 7	63 0	58 6	49 3	41·9	37 2	37·6	38·7	37·6	50 5	54 9	58 1
Stockholm	64 9	60 6	54 3	43 2	35 1	36 9	32 9	34 5	32 2	42 3	54 5	56·1
Brussels	62 4	63 3	59 5	51 1	44 1	39 4	40 1	40 8	40·1	53·1	53 6	59 0
Lisbon	70 8	71 5	71 0	67 5	63 4	58·3	55 5	56 9	58 5	64 8	62 7	69 8
Malta	74 1	77 9	73 7	71 9	61 7	56 6	54 3	53 5	52·9	60 8	66·3	72·7
Cairo	82 9	82 6	78 6	73 9	66 4	57 0	55 5	54 3	62·1	64 2	80·4	81·3
Baghdad	95 9	95 2	85 3	73 3	60 1	48 7	46 7	49 5	57 5	66 3	83 4	91 5
Aden	90 0	88 9	89 1	85 3	79·5	77 3	76 5	77 3	79 9	81 5	87 7	90 5
Salisbury, Southern Rhodesia	57 5	59 3	65 5	70 6	69 7	71 0	71 3	68 3	67 9	66 5	62 0	56 5
Capetown	54 3	55 7	56 7	61 9	—	68 2	71 0	72 5	71 1	63·5	60 1	60·2
Colombo	81 2	80 9	81 4	80 3	79 9	79 1	79 5	79 0	81 3	80 9	81·9	81·1
Toronto	71 3	70 9	65 8	48 7	45 3	31 5	29 1	29 3	32 5	45 9	58 1	72 1
Winnipeg	68 1	67 7	62 1	46 8	25 9	16 1	1 9	— 6 1	15 8	42·7	52 9	63 4
Victoria, B.C	60 2	59 0	55 7	48 8	42 2	35 8	30 9	35 9	42 9	47 1	54 7	57·1
Hobart	45 5	49 3	52 5	51 1	54 8	59 5	59 1	56 9	58 0	52 5	49 8	45 1
Wellington	48 0	48 3	51 9	52 3	55 2	60 2	59 4	63 5	58 3	53·5	51 7	48·1
New York	75 6	74 8	69 3	55 9	52·4	38 8	39 0	38 9	42 4	53 3	62·3	72 6
Washington, D C	78 4	76 0	69 7	56 2	52·2	40 6	43 4	44 6	47 2	55 4	66·4	75·8
San Francisco	59 3	59 6	60 0	60 4	56·6	47 8	44 7	48 3	53 2	55 6	56 7	58 8

the identification of thunderstorms and possibly tornadoes; also research on the possibilities of using radar to estimate the quantity of rainfall over an area of several hundred square miles. Although individual studies in the use of seismographs and "sferics" recorders to detect the development and movements of hurricanes far out at sea were continued, there were no outstanding achievements in these methods during 1949.

Synoptic Meteorology. During 1949 the principal weather forecasting centres in the United States received synoptic messages every six hours reporting the weather in about 700 places in the northern hemisphere, and in addition many of these centres received several hundred reports each hour, more than 10,000 each day, from airport weather stations conveying meteorological items of importance in air navigation. Yet these voluminous reports presented only a small part of the picture of local conditions and variations in weather of significance to agriculture, commerce and transport. There was a constant demand from business concerns and the general public for a more comprehensive coverage by the government meteorological service; and as aviation expanded there was an urgent need for more weather reports. Surface weather observations were augmented by upper air soundings with pilot balloons and radiosondes, by aircraft reconaissance reports and, more recently, by hundreds of "in-flight" weather reports from commercial pilots who, on their regular air transport routes, encountered local storms, icing clouds and air turbulence that would otherwise not be reported for entry on the daily weather charts from which forecasts and storm warnings were prepared. The great number of incoming reports arriving in a continuous stream flooded the primitive facilities of the weather map analyst and forecaster, so that fewer and larger analysis centres became essential, with facilities for mechanical processing of data and the transmission of completely analysed maps by facsimile to remote district and local forecasting offices. This evolutionary trend was still in progress by the end of 1949 and the practice of central analysis could not be completely adopted until communication facilities were available and other technical problems solved, but by the end of the year the use of upper air charts and prognostics prepared by the central analysis unit in Washington had become general throughout the United States.

The flood of weather reports led to other steps It was impossible for the individual forecaster to assimilate and interpret mentally the innumerable items of meteorological data required to determine or define the state of the atmosphere over the country, the continent and the globe. Nevertheless this overall analysis was important for air navigation, for long range weather forecasting and estimates of agricultural production and other business analyses and activities. There was, therefore, some improvement during 1949 in the use of machine tablulation methods and electronic computer apparatus for rapid processing of synoptic weather data.

In an effort to reduce the number of immediate reports required to represent the state of the atmosphere, one investigator proposed a new concept of synoptic presentation, a system which would show the virtual parameters of the weather for an area rather than a point. This concept was too great a departure from customary synoptic practices and the elements it represented were too intangible for immediate acceptance by weather forecasters; but it constituted one solution to a pressing problem.

In the preceding years evidence of distinct wind streams in the upper air, occasionally with velocities of 200 m.p.h. or more, called jet streams, and the relation of these streams to the general circulation and their bearing on the operation of high altitude aircraft and missiles caused synoptic meteorologists, during 1949, to bring out new theories on the connection between fronts in the troposphere and jet streams in the stratosphere. Preliminary observations of the occurrence of these high velocity wind streams in the southern hemisphere were presented with theoretical reasons for believing the phenomenon to be less frequent and less intense than in the northern hemisphere. Direct observations so urgently needed to delineate the extent and nature of jet streams five or ten miles above the ground probably depended upon wider and more frequent soundings with the constant level high altitude balloons already described. It was formerly contended that winds in the stratosphere were relatively constant and formed a fairly simple general global circulation, but later it was calculated that the velocities in jet streams occasionally reach 300 m.p.h. However, most meteorologists, pointing to the rarified state of the atmosphere at high altitudes, believed the air and winds there had insufficient weight and driving force to exert much influence on weather in the lower troposphere far below near the ground.

Synoptic meteorologists were giving more attention to pragmatism in weather forecasting. During 1949 there were many studies and some progress in developing more objective methods for forecasting the weather locally, that is, methods based on substantive factors and "engineering" techniques rather than upon subjective prognostics and expert opinion alone. Forecasts of river stages and floods and of seasonal water supply in western states, where snow accumulation in the mountains is an important source of water for irrigation in the summer growing season, had been improved in recent years and were especially valuable during 1949.

The daily synoptic reports and upper air soundings in the Arctic and over the oceans, which had been new achievements during the preceding years, became routine operations in 1949. Throughout the year weather reconnaissance flights to the north pole were made by U.S. air force planes operating

TABLE IV.—MONTHLY TOTALS OF RAINFALL IN INCHES

	1948 July	Aug.	Sept	Oct	Nov	Dec	1949 Jan.	Feb	March	April	May	June
Hamburg	5 24	6 26	2 56	1 65	0 91	0 79	1 42	1 77	1 81	4 88	3 27	3·70
Stockholm	3 81	4 09	1 53	1 06	0 86	0 87	1 41	0 36	0 52	1 30	1 19	2 10
Brussels	5 12	2 27	1 57	1 75	1 75	2 49	1 09	0 80	1 84	1·88	2 12	0 87
Lisbon	0 00	0 08	0 03	1 99	0 37	7 66	1 58	0 70	1 74	1 49	0 41	0·49
Malta	0 03	0 00	0 05	5 96	5 56	7 42	2 28	2 50	1 71	0 16	0 52	0 04
Cairo	0 00	0 00	0 00	tr	0 04	0 17	0 28	0 07	0 00	0 02	0·01	0 00
Baghdad	0 00	0 00	0 00	0 00	0 10	0 88	0 11	0 13	3·27	0 29	0·13	—
Aden	tr	0 02	tr	0 26	0 02	0 42	0 55	0 18	tr.	tr.	0 03	0 00
Salisbury, Southern Rhodesia	0 02	0 00	0 00	1 85	5 47	2 23	6 02	4 75	1 95	0 46	0 90	0 00
Capetown	5 24	2 00	2 68	1 60	0 31	0 62	6 02	0 20	0·23	2 49	1 63	2 57
Colombo	2 70	6 60	2 18	8 97	12 32	5 22	1·50	0 14	6·08	22 98	12·62	12·46
Toronto	1 31	0 89	2 22	2 63	3 30	2 12	3 33	2 83	2 17	1 15	0 41	0 06
Winnipeg	4 06	0 94	0 05	0 39	1 28	1 63	2 04	1 07	0 69	0 08	1 71	2 71
Victoria, B C	1 40	2 58	1 81	1 87	7 70	6 30	0 39	6 86	2 22	1 41	0 71	1·15
Hobart	1 29	0 77	2 80	4 11	2 50	1 84	4 20	1 14	1 14	1 06	2 40	1 06
Wellington	7 41	2 28	1 37	4 43	4 27	1·41	2 25	1 29	2 54	4 85	3 19	5 83
New York	7 52	3 21	1 13	2 44	3 33	6·52	5 63	3 70	1 97	3 84	4 11	0 16
Washington D C	3 60	8 00	3 63	3 11	5 78	4·93	5 08	3 27	3 96	2 01	5 65	1·85
San Francisco	0 02	0 02	0 09	0 20	1 18	4 75	2 20	3 04	5 85	tr.	0 93	tr.

from Alaska, and during the hurricane season similar flights were made over tropical waters. Weather reconnaissance flights and radar observations contributed much toward keeping the hurricane warning service of the Weather Bureau at a high level of accuracy For reasons of economy the nations participating in the ocean weather vessel patrol in the North Atlantic agreed to reduce the number of station vessels to 11 and for similar reasons the United States reduced the number in the Pacific to three Television, an excellent medium for meteorological services in which map display is important, came into wider use as a means of picturing the weather from day to day for the general public.

Applied Meteorology. After World War II meteorologists redoubled their efforts to encourage and develop the practical applications of weather science and its services in the everyday operations of business and industry and the thousands of enterprises where weather and climate are important factors. During 1949 the American Meteorological society gave special attention to opportunities in applied meteorology.

Research work at the Laboratory of Applied Climatology of John Hopkins university, Baltimore, Maryland, in the meteorological factors relating to crop development and harvesting led to improved quality of product, better scheduling of harvest and reduced labour costs Although in previous years agricultural experimental stations of state and federal governments and agricultural colleges had worked extensively on relationship between weather, climate and crops, the work of the Laboratory of Applied Climatology was outstanding as an instance in which an industrial concern made broad use of a scientific consultant service in meteorology.

In the building industry a preview of the application of modern meteorology and climatology to design, construction and location of industrial and residential structures was shown with the co-operation of the American Institute of Architects and one of the popular periodicals on home design. The publication aroused widespread interest and heralded closer co-operation in research for better utilization of natural " resources " in weather and climate for planning and selecting the best site for the particular industrial or residential purpose, and for other uses such as revision of building codes and formulation of better maintenance practices to meet the diverse effects of different kinds of weather and climate.

The problem of control of air pollution focused attention on micro-meteorology, especially in localities like Donera, Pennsylvania, where in Oct. 1948 local weather conditions led to concentration of factory effluents and to many casualties among people overcome by the vapour. In Nov. 1949 the Public Health Service published a comprehensive report of studies completed in co-operation with the Weather Bureau and other investigating groups. The results were of interest to all cities and industrial communities that suffered from air pollution. Although the Donora study had to do primarily with local meteorology rather than micro-meteorology in the strict sense, it was illustrative of the attention being given to investigations into the small scale or local details of weather and climate

The year saw other new activities in applied meteorology. An example was specialization in local forecasting of sea swells and hurricane winds dangerous to persons engaged in oil drilling operations off the coasts of Louisiana and Texas. In applied climatology and micro-climatology as well as in applied meteorology scientists spoke optimistically of the possibilities and need for specialization in the work of these meteorological fields

Theoretical Meteorology and Research. Most technical papers contributing to knowledge in theoretical meteorology during 1949 were published in the *Journal of Meteorology* of the American Meteorological society (A.M.S.), the *Quarterly Journal* of the Royal Meteorological society and *Tellus*, a new quarterly which first appeared in March 1949 as a publication of the Swedish Geophysical society and the University of Stockholm. Other important research results on subjects of a less theoretical nature were published in the *Bulletin* of the A M S, the *Meteorological Magazine*, London, and the *Transactions* of the American Geophysical union A number of the longer research treatises appeared as monographs of the A M S, or as separate publications and reports issued by the meteorological departments of universities, government offices or their contracting agencies.

The predominance of papers dealing with the general circulation of the atmosphere showed the basic importance of this subject in the minds of meteorologists. Of special interest was the research in development of mathematical techniques for predicting the weather through use of the electronics computor to perform the very large number of computations involved.

International Co-operation. The new convention for the World Meteorological organization proposed by the International Meteorological organization (I.M.O.), in its Washington conference of directors of national meteorological services in 1947 had been ratified by 27 nations as 1949 came to a close. During the year the United States continued its programme of assistance to the Philippine meteorological service and to the services in certain other countries where assistance was required as part of international co-operation in support of air commerce. Of international interest in the Americas was the thirtieth anniversary of the American Meteorological society in December.

The Weather in 1949. In parts of western Kansas and Nebraska as well as portions of adjoining states the heavy snows and cold weather which began the first week of Jan. 1949 practically paralysed normal winter activities for the

ensuing six weeks, and one blizzard after another threatened to cut off entirely the supply of food and other essential commodites from many localities. Emergency supplies were flown in by the air force and some of the main roads were re-opened with great difficulty by the corps of engineers. Traffic on main railroads was interrupted for days in parts of the middle west and near northwest. Snowfall was the heaviest ever recorded in many localities. At Deadwood, South Dakota, the fall in January was 77 in. Places in Arizona, New Mexico, Texas and southern California had snow for the first time in a century. Temperatures in Texas reached the lowest ever recorded there. Waco experienced 5°F. below zero.

In May, Fort Worth, Texas had the worst flood in the history of the city with a rainfall which exceeded 10 in. in 24 hours. In the northeastern states late spring and summer months were unusually hot and dry. New England had the second hottest July in the long meteorological records for that region. As a result of the exceptionally dry summer, crop damage in New Jersey, eastern New York and New England was heavy and the water supply reservoirs of many cities and towns were seriously depleted. Toward the end of the year the long rainless period led to a serious water shortage in the entire metropolitan area of New York city. (*See* also SEISMOLOGY.) (F. W. RR.; X.)

METHODIST CHURCH. In 1949 the Methodist Church in Great Britain showed its first increase (2,602) in membership for 17 years; the number of Sunday school scholars rose by 23,000, making a total gain of 50,000 since 1947; and the president of the conference, the Rev. H. B. Rattenbury, reported that there were now 30 million Methodist adherents in the world.

The annual conference sent to every church a call to action, urging each society to examine its spiritual condition and to adapt its machinery to modern needs. The Ministerial Manpower commission suggested an amalgamation of certain circuits in order to economize ministerial manpower. A survey of churches in mining areas revealed that in many districts progress was being made though some apathy existed where Communism was strong. The Home Mission department was empowered to train workers for the mining areas and to undertake full-scale evangelism in selected districts. A travelling cinema van was equipped to serve as a mobile Sunday school in rural and new areas; several caravans for deaconess-evangelists were also dedicated for this specialized work. The Women's fellowship (chairman, Mrs. Leslie Church) showed marked advance in its social service and as a spiritual force in the life of the Church.

The Overseas Mission department appealed for an additional annual income of £100,000 and for 100,000 new supporters. A new constitution for the Ceylon synod was approved, to become operative in 1950. Hospitality for overseas students and visitors was organized and close co-operation with colonial welfare officers maintained.

The Methodist Church in Australia in 1949 launched a three-year drive, stressing Christian teaching as related to human needs and aiming at recapturing the spirit of the 18th century revival of religion. In the first year many members were added to the Church. The programme for the second year would be devoted to extensive work in youth organizations, and for the third year to a press and radio campaign directed to people outside all Christian churches; in some cities an open forum would also offer Christianity to the unattached masses. During 1935-49 Methodist membership in Australia increased by 187,403 (27·4%) as compared with 14·3% increase in population. Arrangements were made to receive emigrants, especially from the National Children's Home and Orphanage. Two units of outback motor patrol nursing services started working in the Darling river area, based on Menindie.

In South Africa the membership of the Methodist Church showed an increase of 11,000. The racial problems were faced and no barriers of colour or caste were acknowledged. A joint training scheme for ministerial students was established and a divinity faculty set up at Rhodes university college. (L. F. C.)

United States. The Methodist Church, the largest Protestant body in the U.S., on May 10, 1949, closed its first decade since the reunion of three bodies brought it into existence. During the ten years notable advances were recorded. Membership since the merger showed a gain of 1,432,382, the number on Jan. 1, 1950, being 8,792,569. This figure included 24,255 ministers, but not 671,820 preparatory members or 875 full members in 50 mission lands.

Progress in the 1948-52 programme, the "Advance for Christ and His Church," was registered in observance of a week of dedication in March.

The four-year study programme first centred on the documents of the Amsterdam Assembly of the World Council of Churches; it was followed in October by a nationwide series of 78 all-day mass meetings to launch a formal study of, and deeper commitment to, Christian faith. Eight months of 1949 and 1950 were dedicated to concentration upon a specific doctrine, aided by booklets, sermons and group study. (*See* also CHURCH MEMBERSHIP.)

MEXICO. A federal republic of North America lying between the United States and Central America. Area: 767,168 sq. mi. Pop.: (1940 census) 19,653,552; (mid-1949 est.) 24,448,000; about 55% of the population was *mestizo* 29% Indian and 15% white. Chief towns (pop., 1948 est.): Mexico City (federal district, 2,043,574); Guadalajara (282,280); Monterrey (252,639); Puebla (159,701); Mérida (114,967); Tampico (106,874). Language: Spanish, but an estimated 14% speak only Indian tongues. Religion: predominantly Roman Catholic. President, Miguel Alemán Valdes (*q.v.*).

History. The most important events of 1949 were connected with attempts to solve the nation's economic problems. Among these were a continuing unfavourable balance of trade and the instability of the Mexican peso. After a series of downward fluctuations from the pegged value of 4·85 to the U.S. dollar, which began in July 1948, the peso was finally stabilized at 8·65 to the U.S. dollar on June 17, 1949. Stabilization was achieved with the help of a loan of $25 million from the U.S. Treasury through a renewed stabilization agreement between the two governments and $22·5 million from the International Monetary fund. These loans together with the Bank of Mexico's reserves, announced at $84 million, gave the 8 65 pesos to the dollar rate a total support of $131·5 million. Certain groups, such as the exporters of Mexican goods and those engaged in the tourist trade, stood to benefit. On the other hand, importers of goods from the U.S. feared that the new rate would accelerate an already serious inflation.

To halt inflationary tendencies, Ramón Beteta, secretary of the Treasury, announced an eight-point programme which included balancing the federal budget, prevention of inflationary credits by private banks, control of monetary circulation, maintenance of wages and salaries at their maximum purchasing power, downward revision of import tariffs to lessen the blow of devaluation to importers, retention of the 15% *ad valorem* surtax on all exports, prohibition of certain imports (on June 21, 1949, 207 classifications of the Mexican import tariff were added to a previous list of prohibited imports) and suspension of the export permit system.

On the political scene, the government, on Jan. 28, 1949, cancelled the registration of the P.F.P. (Partido Fuerza Popular), the political organ of the Unión Nacional Sinarquista. The petition of the P.R.I. (Partido Revolucionario Institucional), the government party, on which the government based its decree, accused the P.F.P. of being antidemocratic and of aiming at restoring the Roman Catholic Church to the position of influence it had enjoyed before the Laws of the Reform.

The federal elections, held throughout Mexico on July 3, 1949, resulted in a sweeping victory for the government party, the P.R.I., which won 143 of the 147 contested seats in the Chamber of Deputies. The remaining 4 seats were won by the more conservative P.A.N. (Partido de Acción Nacional). The P.R.I. announced that its candidates had also won in the six state elections for governor. Under Mexico's new compulsory registration and voting law (1948), about 3·5 million citizens registered although only about 60% of this number voted. The election was conducted with a minimum of violence and, although the P.A.N. made bitter charges of fraud, the decision was accepted peacefully.

An event which produced a tremendous outburst of patriotic enthusiasm was the announcement, in Sept. 1949, of the discovery of the remains of Cuauhtémoc, the last of the Aztec chieftans and one of Mexico's greatest national heroes. The discovery was made through the directions in a document, allegedly preserved since the conquest. The authenticity of the find was strongly challenged by one group of scholars, while another group maintained just as strongly that the remains were genuine. Regardless of the outcome of the contest, the event was a graphic illustration of contemporary Mexico's repudiation of the Spanish conquest and its glorification of its Indian past. (L. N. McA.)

Education. Schools (1949) kindergarten 837, pupils 98,155, teachers 2,887, primary 24,625, pupils 2,997,198, teachers 67,860, secondary 466, pupils 80,598, teachers 7,805, technical 199, pupils 41,928, teachers 3,676; agricultural 16, pupils 5,949, teachers 701, teachers' colleges 77, students 26,998, teachers 2,854, universities and institutions of higher education 12, students 40,031. Illiteracy (1948 est.) 65%.

Agriculture and Fisheries. Main crops ('000 metric tons, 1948; 1949 est. in brackets) maize 2,832 (3,139), wheat 477 (451), barley 120 (126); oats 35; rice 163 (176), potatoes 140, beans 234 (283); sugar, raw, 635; cotton, ginned, 119, tobacco (1946) 36, coffee (1947) 55. Livestock ('000 head, Jan 1946) cattle (1948) 12,240; sheep 4,742, pigs 5,314, horses 2,641, asses 2,471, mules 1,001, poultry (Jan. 1947) 37,393.

Industry. Fuel and power (1948) natural gas 1,066 million cu. m.; electricity 3,970 million kwh., crude oil 8,371,000 metric tons. Raw materials ('000 metric tons, 1948) iron ore, metal content, 236; steel ingots and castings 269, copper 59, lead 193, zinc 179, gold ('000 fine oz.) 450. Manufactured goods ('000 metric tons, 1948) cotton yarn 5·9, woven cotton fabric 47·3; woollen goods 4·5; cement 833. Index of industrial production (1937=100, average for 1948) general index 121; mining 84, manufacturing industries 147.

Foreign Trade. (Million pesos) Imports (1948) 2,950, (1949, six months) 1,797; exports (1948) 2,594, (1949, six months) 1,653. Main imports: wheat, vehicles, tractors, machinery, rayon, generators, petrol, tubing and pipeline. Main exports: lead, silver, zinc, copper, petroleum and products, cotton and fish. In 1948, the United States took 75% of Mexican exports and supplied 87% of imports.

Transport and Communications. Roads (1949) about 18,133 mi. suitable for motor vehicles. Licensed motor vehicles (Dec 1948): cars 134,079, commercial vehicles 100,998. Railways (1948) 14,000 mi.; traffic (1948, national railways only): passenger-mi., 1,208 million; freight net ton-mi. 4,340 million. Shipping (July 1948) merchant vessels of 100 tons and upwards, 75, gross tonnage 121,682. Air transport (1948) passenger-mi. 343 million. Telephones (1948): 239,749. Broadcasting (1948): 136 stations and 1,113,000 receiving sets in use.

Finance and Banking. (Million pesos) Budget: (1948 actual) revenue 1,940, expenditure 2,300; (1949 est.) revenue 2,372, expenditure 2,550. National funded debt (Dec 1947) 1,856. Currency circulation (June 1949; in brackets, June 1948) 2,054 (1,726). Bank deposits (April 1949; in brackets, April 1948). 1,742 (1,716). Monetary unit: *peso* with a selling exchange rate (Dec. 1949; in brackets, Dec. 1948) of 24·4 (27·7) pesos to the pound.

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MIDDLE CONGO: *see* FRENCH UNION.

MIDWAY ISLANDS: *see* UNITED STATES TERRITORIES AND POSSESSIONS.

MILK: *see* DAIRY FARMING.

MINC, HILARY, Polish politician (b. Kazimierz, Poland, Aug. 31, 1905), studied law and economics. During a stay in France (1927-28), he was active in organizing Communist cells among the Polish miners; but in Poland, as a civil servant (1930-39), he succeeded in concealing his political ties. He worked in the editorial section of the General Statistical office, was a member of an advisory committee at the ministry of finance and was for some time attached to Gdynia. After the partition of Poland between Germany and the U.S.S.R. he became professor of economics at the University of Samarkand (1939-43). In 1943 he was one of the organizers of the Union of Polish Patriots, the cradle of the Communist-controlled government of Poland. In June 1945 he became minister of industry and trade in the first government of "national unity." In the cabinet appointed on Feb. 7, 1947, and presided over by Józef Cyrankiewicz, he was minister of industry. Though ready in June 1947 to accept Marshall plan, he kept in line with Moscow when informed of the Soviet attitude. As a member of the Politburo of the Polish Workers' (Communist) party he was one of the delegates at the conference of Wilcza Góra, Poland, in Sept. 1947, at which the Cominform was created. On April 22, 1949, he was appointed acting prime minister with far reaching powers to co-ordinate the economic activities of all branches of the state administration.

MINERAL AND METAL PRODUCTION AND PRICES. Table I shows the output of the more important minerals and metals in the major producing countries. Table VII gives the prices for the leading minerals and metals, as quoted on New York and London markets at the beginning and end of 1949. Many of these prices, especially those of the major non-ferrous metals, took sharp drops during the year, marking the end of the postwar period required to exhaust the backlog of industrial demand that had accumulated during World War II. Following the abandonment of price control in 1946 there was practically continuous advance in prices. The E. & M. J. Metal and Mineral Markets weighted index of non-ferrous metal prices, which averaged 90·86 in 1945, rose to 142·19 in Dec. 1946, to 152·48 in Dec. 1947 and to 185·52 in Dec. 1948. A peak of 185·75 in Feb. 1949 was followed by a gradual decline to 131·20 in June and a reaction to 142·24 in September, with further minor fluctuations in subsequent months, closing at approximately the level prevailing late in 1946.

Aluminium. Although world production of aluminium in 1948 increased one-sixth over 1947, to more than double the 1939 total, it was still only 65% of that of 1943, the World War II peak year. The bulk of the increase was in Canada and the United States, which supplied respectively 26% and 45% of the total and together accounted for 62% of the increased output of 1948.

The demand for U.S. aluminium increased steadily and until the latter half of 1949 supplies were not plentiful. While the production rate advanced appreciably during the first half of 1949, strikes in several of the plants cut output in the second half. The total output up to the end of Oct. 1949 was 526,436 tons, and the total for the year was expected to be about the same as that of 1948.

Copper. World production of copper was gradually recovering from the postwar slump. The 1948 total was 14% more than the 1939 level, but was still short of the World War II peak by a similar percentage. Incomplete

smelter reports for 1949 indicated appreciable gains in output in Canada, Germany, Japan and Northern Rhodesia, but these were largely offset by declines in Chile and the United States, and little improvement could be expected in the yearly total.

Demand exceeded supply until well into 1949, when a reversal of the trend was marked by a sharp drop in prices

In the U.S., the 1948 output fell somewhat short of that of 1947 because of strikes in the industry, although the decreased ore tonnage was partly offset by a small increase in copper content of the ore. The decline in domestic output was more than offset by increased imports, giving a small increase in the total supply above that of 1947.

In 1949 mine output suffered further declines, partly from labour stoppages and partly from a cut in working time from 48 to 40 hr. a week. Mine production during the first three-quarters of 1949 totalled 557,581 tons, a reduction of 11% from the average monthly rate in 1948.

In Canada, primary copper production advanced from 225,861 tons in 1947 to 240,732 tons in 1948, and continued to improve at about the same rate in 1949 with a total of 172,925 tons up to the end of August. Small tonnages of ore and concentrates were exported, but the bulk of the output was converted into refined copper. Refinery output increased from 202,427 tons in 1947 to 221,275 tons in 1948 and 151,985 tons in the first eight months of 1949.

Lead. The lead output of the major producing countries and estimated world totals are shown in Table II. Early in 1949 a sharp break in prices took place, due to increased production which brought supply ahead of demand.

TABLE II.—WORLD SMELTER PRODUCTION OF LEAD
(Thousands of short tons)

	1943	1944	1945	1946	1947	1948
Argentina	26·2	21 1	23 3	17 8	22 0	23 7
Australia	202 3	173 1	174 6	154 0	177·6	211·4
Belgium	8 8	8 5	8 0	26 2	44 6	72 4
Canada	223 9	142 6	162 5	165 8	162 0	160 1
France	13 7	2 1	3 0	38 3	38 1	38 4
Germany	173 3	154 2	?	31 9	26 8	54 1
Italy	13 7	?	0 9	15 4	19 3	29 1
Japan	35 8	8 8	13 9	5 4	9 6	11 7
Mexico	234·2	196 5	221·7	151 8	240 1	217 4
Peru	47 8	42 9	44 1	40 2	36 1	38 4
Spain	40 5	34 1	35 1	35 6	37 9	24 2
U S S R	139	120	45	55	66	?
United States	469 6	464 8	443 6	338 2	441 0	406 7
Total	1,720	1,480	1,230	1,140	1,415	?

While the U S mine output of lead showed little improvement in 1948, and refinery output declined 8%, this trend was reversed in 1949. The mine total was stepped up to 311,281 tons in the first three quarters of 1949, while the primary refinery output advanced to 399,139 tons.

The output of primary lead in Canada increased from 161,668 tons in 1947 to 167,251 tons in 1948, but operations were slowed down in 1949, the total for the first eight months being 98,452 tons.

Manganese. The output of the more important manganese producing countries, as listed in Table III, are usually about 90% of the world total, although there are about 35 minor producers.

The domestic output of manganese in the U.S. continued to decline. Shipments from the mines showed only a minor

TABLE I.—**World Mineral and**

(Metric tons unless otherwise specified Th indicates thousands and Mi millions of units)

Country	Aluminium (Th)	Antimony	Asbestos (Th)	Bauxite (Th)	Cadmium	Chromite (Th)	Coal (Mi)	Coke (Mi)	Copper in Ore (Th)	Copper (Smelter) (Th)	Diamonds (Th carats)	Gold (Th oz)	Iron Ore (Th)	Pig Iron (Th)	Steel (Th)	Lead in Ore (Th)	Lead (refined) (Th)
ALGERIA		817	p	-	-		0 23	—	—	—	—	—	1,872	—	—	1 0	-
ANGOLA	-			-			—	—	-		796	—	—	—	—	-	
AUSTRALIA		162[7]	1 4[7]	3 0[7]	223 9	p	23 4[7]	1 347[7]	13 4	13 3	—	890	2,140	1,255	1,236	207 8	191 8
BELGIAN CONGO	—				18 0		0 11[7]	- -	155 5	155 5	5,825	300	—	—	—	0 6	
BELGIUM	—	—		—	157 9	—	26 68	3 73	—	—	—	-	90	3,937	3,917	—	—
BOLIVIA	—	14,280	0 1	—	—	—	—	—	6 6	—	—	4	-			25 6	—
BRAZIL	—	—	p	—	—	1 6	2 01	0 27	—	—	250[7]	157	1,441	532	462	-	—
BURMA	-	66[7]		17	-	-	—	—	—	—	—	—	p	-	-	7 6	7 6
CANADA	333 0	124	650 2	—	346 1	1 5	16 72	3 12	217 6	192 6	—	3,528	1,228	2,151	2,866	149 0	145 2
CHILE	—	—	p	—	—	—	2 24	—	448 3	424 9		157	2,545	481[7]	—	—	—
CHINA	p	3,251	P	—	—	—	8 72	0 09	0 5	0 5		108[7]	246	47	—	?	?
COLOMBIA	—	—	—	—	—	—	0 85[7]	—	—	—		335	—	—	—	?	?
CZECHOSLOVAKIA	- -	1,593	P	—	—		41 34	5 22	—		—	27	1,428	1,660	2,645	?	?
FRANCE	64 8	200[7]	0 5[7]	790	50 1	-	45 13	6 16	p	p	—	33[7]	23 031	6,573	7,243	11 6	34 8
GERMANY	7 3	--		p	3 5	-	267 08	18 98	17 5[7]	62 2	—	—	6,534	5,630	5,558	22 3	49 2
GOLD COAST	—	—	—	132 2			—	—	—	-	850[7]	672	-			-	
GREECE			—	40 2	—	1 5	—	—	-		-	—	p	- -	-	1 6	1 6
GUIANA, BRITISH		- -	—	1,903 2	—	-	—	—	-		36	17	—	-	- -	—	-
GUIANA, DUTCH	- -	—	—	2,149 9	-	—	-	-	-			4	-	-	—	—	—
HUNGARY	5 2	—	—	300		- -	10 60	-	p	-	-	27	276	121	742	—	—
INDIA	3 4	—	0 1[7]	12 97	—	35 3[7]	30 79	1 66[8]	6 3	6 0	-	180	2,536[7]	1,457	1,224	—	—
INDO-CHINA	—	-		—	-	—	0 36	—					p	p	—	—	—
INDONESIA	- -		—	437 8	—	-	0 29	—	p	-		—	—	—	—	-	-
ITALY	33 1	430	11 8	160	49 7		1 96	2 28	p	p		2[8]	455	525	2,125	30 1	26 4
JAPAN	7 0	124	4 6	- -	18 9	9 3	35 25	1 93	25 8	54 3	-	70	556	832	1,714	6 7	10 6
LUXEMBOURG	—	—			-	-	-	—	-	—	-		3,399	2,626	2,453	—	—
MALAYA	-	—					0 38	—		—	—	10	p	—	—	—	—
MANCHURIA	—	—		—	-	-	-	-	-	-	-	-	-	-	-	-	-
MEXICO	—	6,790		—	P	—	1 06[7]	0 53[7]	59 1	48 8	—	368	229	270	269	197 5	194 5
MOROCCO, FRENCH	—	411	0 4	—	—	—	0 29	—	0 4	-	—	p	301	—	—	28 2	—
NEW CALEDONIA	—	—	—	—	—	75 0	—	—	—	—	—	-	p	—	—	—	-
NORWAY	30 1	—	—	—	69 0	—	-	—	13 6	8 7			288	202	—	-	-
PERU	—	1,770	—	—	2 4	—	0 19	p	18 1	12 8		111	—	—	—	48 5	34 8
PHILIPPINES	—	—	—	—	—	256 9	0 09	—	3 4	—		209	18	—	—	—	—
POLAND	—	—	—	—	115 0[8]	—	75 28	4 66					602	1,133	1,878	7 8[7]	16 9
PORTUGAL	—	23[7]	p	—	- -	p	0 49	—				16[7]	p	—	—	—	—
RHODESIA, NORTHERN	—	—	—	—	—	230 7	—	—	226 5	217 0		p	p	—	—	13 2	13 2
RHODESIA, SOUTHERN	—	10	62 5	—	—	-	1 70	p	p	-	—	514	30	—	-	—	—
SIERRA LEONE	-	—	—	—	—	7 9	—	—	-	-	466	2	968	—	—	—	—
SOUTH AFRICA		3,700	41 5	—	—	412 8	23 56	0 31[8]	29 5	29 0	1,200[7]	11,584	1,164	651	600	—	—
S W. AFRICA	—	-	-		P		—	-	10 8	—	201	p	p	—	—	25 4	—
SPAIN	1 0	270	—	8 9	—	—	11 62	0 83	11 8[7]	20 8	-	37	1 717	530	536	27 3	22 0
SWEDEN	3 5	-	-	—	—	—	0 4[7]	0 08	16 3	15 5	-	76[7]	12,061	754	1,256	20 9	5 5
THAILAND (SIAM)	-	8 5	-	-	—	—	—	—	—	—	—	—	—	—	—	—	—
TUNISIA	-	-	-	—	—	—	0 07	—	—	—	-	-	696	—	—	13 4	18 2
TURKEY	-	520	0 2	—	—	285 4	3 45	0 34	12 4	11 0	-	-	185	166	99	—	—
UNITED KINGDOM	30 5	-	-	—	115 8	—	211 77	15 58	—	—	—	-	13,320	9,423	15,116	2 3	2 3
UNITED STATES	565 6	5,416	33 6	1,480 5	3,527 0	3 2	590 62	61 06	757 3	839 6	—	2,025	102,855	56,214	80,413	351 0	418 5
U S S R	140	P	P	500	P	—	201[7]	14 5[6]	180	180	—	7,000	21,000[6]	12,770	20,000	P	P
VENEZUELA	—	-	0 2	—	—	—	0 02	—	—	—	76	50	—	—	—	—	-
YUGOSLAVIA	p	p	—	p	—	—	11 50	—	P	P	—		P	172	—	?	?
WORLD TOTAL	1,265	41,300	989	8,246	4,772	2,113	1,689	160·5	2,321	2,341	10,028	29,600	211,000	112,700	155,000	?	?

Notes. Each item of data previous to 1948 is followed by a reference superscript indicating the year to which the figure belongs—[7] for 1947, [6] for 1946 and so on for the earlier years A figure followed by ? or with less decimals than others in the column is an estimate The letter "p" indicates a small production unknown in amount or less than the minimum base of the table, "P" indicates a larger but unknown production

TABLE III.—WORLD PRODUCTION OF MANGANESE ORE
(In thousands of short tons)

	1943	1944	1945	1946	1947	1948
Brazil	303 8	162 0	269 7	164 4	156 7	155 7
Chile	125 8	48 5	8 2	22 6	21 4	26·0
Cuba	343 0	284·3	218 5	144 2	53 6	32 0
Gold Coast	589 0	528 6	675?	857 2	560 7	705 6
India	666 8	414 7	235 5	283 5	503 2	350 8
South Africa	241 5	117 8	126 2	262 1	317 7	304·7
U S S R	?	508?	2,480?	1,870?	1,980?	?
United States	205 2	247 6	182 3	143 6	131 6	131 1
Total	4,450	3,200	4,675	4,030	4,299	4,300

decline in 1948, to 131,100 tons against 131,627 tons in 1947, but there was a sharp drop in 1949, the total for the first three quarters being only 86,022 tons. Receipts of foreign ores were 1,034,168 tons in the first three quarters of 1949, as compared with 1,256,597 tons in the full year 1948. The drop in ore imports was partly offset by increased imports of ferro-manganese in 1947 and 1948, but in 1949 these dropped back to the 1947 level. While the three-quarters total of 1949 for general imports of ore was 1,034,168 tons, against 984,127 tons of imports for consumption, the corresponding consumption figure was 1,060,179 tons, indicating even heavier withdrawals from plant stocks.

Nickel. The bulk of the world's supply of nickel came from Canada, but outputs of other significant producers and the estimated world totals during several recent years are shown in Table IV.

There was a sharp increase in Canada in 1948 in both production and exports of nickel, and extensive development work was under way in the mines to expand the ore reserves. Proved ore reserves were increased during 1948 from 7,171,000 tons of nickel-copper content to 7,503,000 tons.

Production in 1949 was maintained at about the same rate as in 1948, but exports increased, total production up to the end of August being 85,485 tons, and total exports 90,050 tons.

TABLE IV. WORLD PRODUCTION OF NICKEL
(In short tons)

	1943	1945	1946	1947	1948
Canada	144,009	122,565	96,062	118,627	131,075
Cuba	2,679	12,015	12,391	2,220	
Finland	9,888	992	662	?	?
Greece	545				
Japan	1,778	717	?	?	?
New Caledonia	8,128	4,771	3,063	3,687	5,381
Norway	636	569	61		
South Africa	378	550	548	583	505
U S S R (est.)	12,300	14,800	22,000	27,500	27,500
United States	642	1,155	352	646	883
Total	184,000	160,000	135,500	153,000	165,000

Tin. World production of tin increased by nearly one-third in 1948, but was still more than one-third under the peak production of 1941. Outputs of the major producing countries and the estimated world totals during recent years are shown in Table V, as reported by the U.S. Bureau of Mines.

The 1948 total was about the same as that of 1939, and was ahead of consumption for the first time since 1943. World smelter capacity had been largely rehabilitated, and the improvement was reflected in imports of metal into the

Metal Production in 1948

(Metric tons unless otherwise specified. Th. indicates thousands and Mi. millions of units)

Magnesite (Th.)*	Manganese ore (Th.)	Mercury Flasks	Nickel (Th.)	Petroleum (Mi. bbl.)	Phosphate Rock (Th.)	Platinum (Th. oz.)	Potash (Th.)†	Pyrite (Th.)	Salt (Th.)	Silver (Th. oz.)	Sulphur (Th.)‡	Tin in ore (Long tons)	Tin (Long tons)	Tungsten Conc.§	Zinc in ore (Th.)	Zinc (smelter) (Th.)	Country
—	—	377	—	—	670 6	—	—	15 1	777	487	—	—	—	—	6 1	—	ALGERIA
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	ANGOLA
37 4⁷	1 8⁷	p		—	5 4⁷	0 1	0 1	119 7⁷	89	10,058	—	1,874	254	1,132⁷	151 7	83 1	AUSTRALIA
—	17 6⁷			—	—	0 2	—	—	1	3,806	—	14,073	3,875	236	46 5	—	BELGIAN CONGO
—	—	—	—	—	68 9	—	—	P	—	—	—	—	10,469	—	—	153 9	BELGIUM
—	—	p		—	—	—	—	—	—	7,562	2 7	37,336	81	2,485	—	—	BOLIVIA
p	141 3	—	p	—	—	—	—	3 6	781	23	—	240	—	1,144	—	—	BRAZIL
—	p	—	—	0 3	—	—	—	—	56⁸	450		1,163	—	1,045⁷	—	—	BURMA
	0 2		118 9	12 4		116 6	—	167 0	672	14,569	—	309	309	727	214 8	178 3	CANADA
—	20 5	359	—	—	59 5	—	p	—	78	990	13 3	—	—	p	—	—	CHILE
P	22	290	—	—	—	—	p	42 9	2,842	2⁷	P	4,800	1,606	12,200	—	0 3	CHINA
—	—	—	—	23 9	—	40 0	—	—	124	109	—	—	—	—	—	—	COLOMBIA
P	—	800	—	—	—	—	—	3 2	9⁶	1,600	—	—	—	—	—	2 0⁷	CZECHOSLOVAKIA
—	—	—		—	56 8⁷	—	466 7	179	1,991⁶	535⁶	13 8	78	—	391⁷	12 2	55 5	FRANCE
P	89⁷	P	—	4 5	0 5	—	1,925 5	583 1	1,912	867		100	26	—	28 9	41 4	GERMANY
	640 1	—	—	—	—	—	—	—	—	54⁶	—	—				—	GOLD COAST
12 2	p	—	—	—	—	—	—	16 2	52	—	p	—	—	—	—	—	GREECE
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	GUIANA, BRITISH
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	GUIANA, DUTCH
—	33 5⁷	—	—	3 7	—	—	—	P	p	15⁶	—			—	—	—	HUNGARY
52 4⁷	456 5⁷	—	—	2 4	0 9⁷	—	1 1	P	2,378	12⁷	P			p			INDIA
—	—	—	—	—	—	—	—	—	64	—		30	60	—			INDO-CHINA
—	—	—	—	31 6		p	—	—	360	—	P	29,206	136	—	—	—	INDONESIA
p	26	39,000	p		p	p		753 7	559	601	170	120	120	p	79 8	26 8	ITALY
—	47 5	1,526	—	1 1	3 6	—	—	1,138	319	2,231	40 1	120	146	9	33 4	21 2	JAPAN
—	—	—	—	—	—	—	—	—	—	—			—				LUXEMBOURG
—	—	—	—	—	—	—	—	—	—	—	—	44,815	49,707	87		—	MALAYA
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	MANCHURIA
—	53 8	9,700⁷	—	58 5	—	—	—	—	157	57,520	2 1	182	181	168	171 6	48 3	MEXICO
—	214 4	—	—	—	3,226 3	—	—	—	64⁷	117⁶	—	—	—	—	2 3	—	MOROCCO, FRENCH
—	—	—	4 9	—	P	—	—	—	—	—	—	—	—	—	—	—	NEW CALEDONIA
1 7⁷	—	—	—	—	—	—	—	735 4	—	148		—	p	p	6 0	42 0	NORWAY
—	—	—	—	14 8	—	—	—	—	60	10,422	1 0	74	—	227	—	1 5	PERU
—	25 6	—	—	—	P	—	—	—	—	151		—	—	—	64 9	—	PHILIPPINES
3 8⁷	—	—	—	1 0	—	—	—	39 7⁷	726	—	—	—	—	—	—	87 1	POLAND
—	2 4⁷	—	—	—	—	—	—	556 1	—	—	—	453	240	2,930	—	—	PORTUGAL
	4 0	—	—	—	—	—	—	—	—	—	—	—	—	—	22 5	22 5	RHODESIA, NORTHERN
5 7	—	—	—	—	—	—	—	13 2	—	81	—	105	—	80	—	—	RHODESIA, SOUTHERN
—	—	—	—	—	—	0 1	—	—	—	—	—	—	—	—	—	—	SIERRA LEONE
10 7	276 4	—	0 5	—	39 7	73 7	—	36 0	124⁸	1,171	—	457	554	151	—	—	SOUTH AFRICA
—	—	—	—	—	1 0	—	—	—	15	301	—	111	—	12	—	—	S W AFRICA
5 6	17 7	55,608⁷	—	—	20 2	—	115 8	1,110 7	835⁷	206	17 0	400	352	888	47 0	21 2	SPAIN
—	10 7⁷	p	—	—	50 7⁶	—	—	310 6⁷		1,089⁷	—	—	—	322⁷	36 3	—	SWEDEN
—	—	—	—	—	—	—	—	—	78⁶	—	—	4,240	—	495		—	THAILAND (SIAM)
—	—	—	—	—	1,863 7	—	—	3 2	93⁸	60⁸	—	—	—	—	2 5	—	TUNISIA
3 4	8 3	98⁷	—	—	—	—	—	p	237	—	2 4	—	—	—	—	—	TURKEY
—	—	—	—	—	—	—	—	10 1⁷	3,189	25	—	1,281	30,218	68⁷	—	73 1	UNITED KINGDOM
341 1⁷	118 9	14,388	0 8	2,016 3	8,807 9	19 3	757 1	943 4	14,881	39,228	4,869 2	6	36,703	3,633	563 8	714 6	UNITED STATES
P	1,800	P	25	211 8	P	125	—	P	—	—	P	—	—	P	—	106⁷	U S S R
1 9	—	—	—	490 0	—	—	—	—	36	—	—	—	—	—	—	—	VENEZUELA
P	—	—	—	—	—	—	—	P	—	—	—	—	—	—	—	—	YUGOSLAVIA
2,000	3,900	164,000⁷	150	3,414	17,000	520	3,431	9,000	42,488	171,000	5,300	151,800	153,300	32,000	?	1,692	WORLD TOTAL

*Crude magnesite. †K_2O equivalent of salts produced. ‡Mainly crude sulphur, but includes some ore and some sulphur recovered from roaster gases. §60% WO_3 basis.

United States in 1948, which more than doubled over 1947.

During 1949 smelter operations were maintained at approximately the 1948 level, the output up to the end of November totalling 37,253 short tons, as against 37,546 tons in the same period of 1948.

TABLE V.—WORLD PRODUCTION OF TIN
(In thousands of short tons)

	1943	1944	1945	1946	1947	1948
Australia	3·0	2·9	2·6	2·4	2·7	2·1
Belgian Congo	19·6	19·4	19·1	15·8	16·7	15·5
Bolivia	46·5	43·5	47·6	42·1	37·3	41·1
China	3·6	3·7	3·9	1·5	4·5	5·3
Malaya	29	10·4	3·5	9·4	30·3	49·4
Neth. Indies	19·7	7·6	1·5	7·2	17·8	32·2
Nigeria	14·2	14	12·6	1·2	10·2	10·1
Siam	6·5	3·7	2·0	1·2	1·6	4·6
Others	12·4	7·8	8·2	8·2	6	7
Total	154·5	113	101	99	127·1	167·3

Uranium. The major sources of supply of uranium in the past were the Belgian Congo and Canada, with small amounts from the United States, Czechoslovakia and Portugal. With the development of the atomic bomb a new incentive arose for a world-wide search for uranium ores. In such a widespread programme favourable results could be expected in only a relatively few locations, but no definite information was available during 1949 on the findings. A number of new locations were reported, but for security reasons little detailed information was made public.

Before the discovery of the rich ores of the Belgian Congo, small amounts of radium ores were mined in the United States, and from these uranium was recovered as a by-product. The Colorado plateau area of Colorado, Utah and Arizona had supplied moderate tonnage of low grade vanadium-uranium-radium ores since the early 1930s. Prospecting and new development were active in this area, and late in 1949 it was reported that there were about 300 mines in operation, employing 1,000-1,200 miners and supplying ore to six treatment plants. Other areas of Arizona also made marked progress, and in mid-1949 ore production was estimated at 200 tons per day.

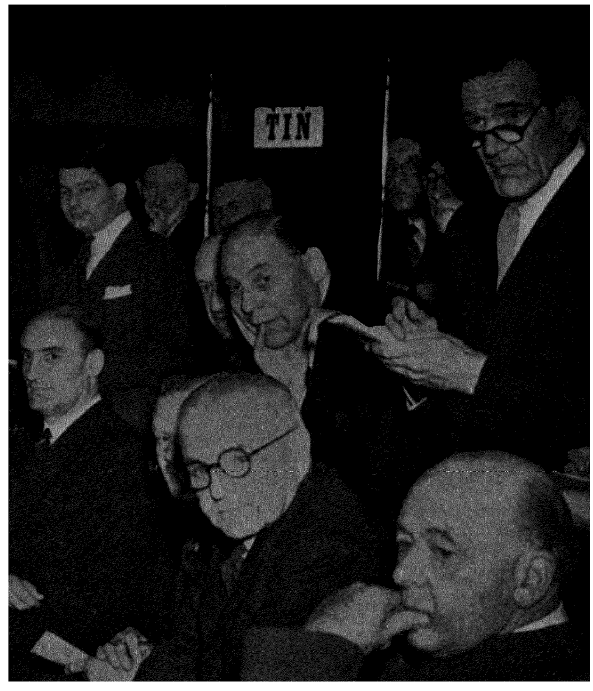
To stimulate the prospecting programme in the United States, a price of $3,50 per pound of uranium oxide was guaranteed, supplemented by a bonus of $10,000 to any operator who delivered as much as 20 tons of concentrates of at least 20% of uranium oxide from any single claim not previously operated.

Zinc. World production of zinc in 1948 advanced by 6% to a level above that of 1939. The outputs of the important producing countries and the estimated world totals during the past several years are shown in Table VI.

Smelters in most European countries were up to or past their prewar outputs, and the deficiencies in Germany and Poland were more than offset by increases elsewhere.

TABLE VI.—WORLD PRODUCTION OF ZINC
(In thousands of short tons)

	1939	1944	1945	1946	1947	1948
Australia	79·8	88·2	93·8	85·4	77·7	91·6
Belgium	205·1	9·6	12·9	95·0	146·7	169·5
Canada	175·6	168·5	183·3	185·7	172·9	196·5
France	67·3	9·7	9·3	33·5	50·7	61·2
Germany	254·6	286·2	?	31·3	22·8	45·6
Great Britain	58·3	80·7	69·5	73·1	76·4	80·6
Italy	39·0	—	1·7	16·8	28·6	29·5
Japan	56·5	69·0	20·4	12·4	16·4	23·4
Mexico	39·0	54·3	54·0	46·3	62·5	53·2
Netherlands	22·4	2·3	—	2·2	10·5	15·0
N. Rhodesia	14·2	16·2	17·1	19·2	23·7	24·8
Norway	50·6	13·0	10·2	33·3	38·1	46·3
Poland	120·0	?	40·1	62·4	79·1	96·0
Spain	14·8	19·9	19·1	19·4	21·8	23·4
United States	507·2	869·3	764·6	772·4	802·5	787·8
Total	1,820	1,790	1,400	1,550	1,760	1,865



Merchants at the London Metal exchange which opened for trading in tin for the first time for almost eight years on Nov. 15, 1949.

In the U.S. in 1948 mine output, smelter output and imports all fell short of the 1947 level, cutting the supply at the same time as consumption was increasing. There was another small decline in mine output in 1949, but smelter output increased slightly, assisted by larger imports of ore.

The recoverable zinc content of Canadian ores rose from 207,863 tons in 1947 to 234,164 tons in 1948, of which 196,575 tons was produced locally as refined zinc and 37,589 tons was exported in ores and concentrates. The improved production rate was continued in 1949, with a total of 212,544 tons in the first nine months, of which 156,706 tons was refined zinc output. After mid-1949 the exports of zinc in ore and concentrates more than doubled compared with the preceding rate, and reached a total of 72,365 tons by the end of September. (*See* also COAL; DIAMONDS; GOLD; IRON AND STEEL; PETROLEUM; SILVER.) (G. A. RO.)

MINERALOGY. The occurrence in nature of the well-known nickel compound, $NiSO_4 \cdot 6H_2O$, was reported by Clifford Frondel and Charles Palache and the name retgersite assigned to it as a mineral (*American Mineralogist*, vol. 34, 188-194). W. C. Smith, F. A. Bannister and M. H. Hey described cymrite, a new barium mineral, $BaAlSi_3O_8OH$, from the Benallt manganese mine, Rhiw, Carnarvonshire, Wales (*Mineralogical Magazine*, vol. xxviii).

The increased demand for single crystals, the success achieved in growing them in the laboratory, their properties and many uses were described in an illustrated article "Crystals" by Hans Jaffe (*Physics Today*, Sept. 1949).

The progress made from 1939-49 in producing synthetic gem materials in the United States was discussed in "American Synthetic Crystals—Sapphire to Titania" by A. K. Seemann (*Gems and Gemology*, vol. vi, pp. 151-159) and by C. H. Moore, Jr., in "Formation and Properties of Single Crystals of Synthetic Rutile" (*Mining Engineering*, *Mining Transactions*, June 1949).

During the year the following books became available. *Story of Jade* by Herbert P. Whitlock and Martin Ehrmann

TABLE VII.—MINERAL AND METAL PRICES IN 1949

New York market as reported by *E. & M J. Metal and Mineral Markets*

Open	Close	Grade	Units
17 00 cents	17 00 cents	99% ingot	Pound
$ 5 10	$ 2 75	50-55% Sb	S T unit
41 67 cents	35 28 cents	Domestic, cased	Pound
6 00 cents	5 50 cents	White oxide	,,
$ 24 50	$ 24 50	4% Be (a)	,,
$ 2 00	$ 2 00	Ton lots	,,
$ 2 00	$ 2 00	Commercial sticks	,,
$ 38 50	$ 37 50	48% Cr_2O_3, 3 Cr_2 Fe	Short ton
$ 1 02	$ 1 12	97%, spot	Pound
19 55 cents	19 55 cents	4-9% C, 65-69 Cr (a)	,,
$ 1 65	$ 1 80	97-99% Co	,,
23 20 cents	18 20 cents	Domestic	,,
23 45 cents	18 425 cents	Export	,,
$ 35 00	$ 35 00		Ounce
$ 2 25	$ 2 25	99 9% In	,,
$112 50	$102 50	Sponge, powder	,,
$ 6 20	$ 7 20	Mesabi non-bessemer	Long ton
$292 17	$147 67	80%, Joplin, Mo	Short ton
21 50 cents	12 00 cents	New York	Pound
20 50 cents	20 50 cents	99 8% car lots	,,
27 50 cents	27 50 cents		,,
71 60 cents	82 80 cents	48% Atlantic ports	L T unit
30 00 cents	35 50 cents	96% Mn, 2% Fe	Pound
$160 00	$172 00	78-82%	Long ton
$ 62 00	$ 65 00	19-21% Mn	,,
$ 91 50	$ 72 00 (76 lb)		Flask
45 00 cents	54 00 cents	90% MoS_2 (b)	Pound
$ 2 80	$ 2 80	99% Mo	,,
95 00 cents	$ 1 10	55-65% Mo (a)	,,
40 00 cents	40 00 cents	Cathodes	,,
$ 24 00	$ 24 00		Ounce
$ 58 50	$ 75 00	24% P	Long ton
$ 93 00	$ 69 00	Wholesale	Ounce
$125 00	$125 00		,,
$ 2 00	$ 2 00	99 5%	Pound
16 75 cents	19 00 cents	97 – % Si, spot	,,
11 30 cents	11 30 cents	50% Si (a)	,,
13 50 cents	13 50 cents	75% Si (a)	,,
70 00 cents	73 25 cents	Foreign, New York	Ounce
$ 2 375	$ 2 25	60% Ta_2O_5 (a)	Pound
$143 00	$143 00	Sheet	Kilo
$ 1 75	$ 1 75		Pound
$ 1 03	77 50 cents	Straits	Pound
$ 1 40	$ 1 40	20-25% Ti (a)	Short ton
$ 19 00	$ 15 00	56-59% TiO_2	Long ton
7 00 cents	4 50 cents	94% TiO_2	Pound
$ 28 50	$ 28 50	Domestic	S T unit
$ 24 50	$ 18 75	Chinese	,,
$ 2 30	$ 2 30	75-80% W (a)	Pound
$ 2 90	$ 2 90	98 8% W	,,
27 50 cents	27 50 cents	(c)	,,
$ 3 00	$ 3 00	(a)	,,
$110 00	$ 57 00	60%, Joplin, Mo	Short ton
17 50 cents	9 75 cents	St Louis	Pound

London market as reported by the *Metal Bulletin*

	Grade	Units	Open (f) £	s	d	Close (g) £	s	d.
Aluminium	98-99%	Long ton	87			112		
Antimony, Ore	50-55% Sb	Unit		25	6		21	6
Antimony	Domestic, 99%	Long ton	200			185		
Arsenic	Foreign, 99%	,,	43	5		39	15	
Beryllium-copper alloy	(a, d)	Pound	8	10		8	10	
Bismuth		,,		10	9		14	6
Cadmium		,,		12	6		14	6
Chromium, Ore	Rhodesian, 1st grade	Long ton	10	4		10	4	6
Metal	98-99%	Pound		5	1		5	1
Ferro-alloy	4-8% C, 60% Cr	Long ton	60			60		
Cobalt		Pound		10			13	6
Copper	Fire ref, high gr	Long ton	139	10		152	10	
	Electrolytic	,,	140			153		
Gold	Official	Ounce		172	3		248	
Indium		,,		12	6		13	
Iridium	Sponge, powder	,,	25			35		
Iron, Ore			(e)				(e)	
Lead, Ore			(g)				(a)	
Metal	Foreign, soft	Long ton	112			97		
Magnesium Ingots		Pound		1	2		1	2
Sticks		,,		1	6		1	6
Manganese, Ore	48-50% Mn	Unit		2	8			35
Metal	96-98% Mn	Pound		1	5½		1	5½
Ferro-alloy	7% Mn, 1% C	Long ton	86			86		
Spiegel	20% Mn	,,	14	7	3	17	8	
Mercury	(76 lb)	Flask	15			26	5	
Molybdenum, Ore	85% MoS_2	Unit		49	6		88	6
Metal	Powder	Pound		35	9		32	6
Ferro-alloy	70-75% Mo (a)	,,		5	8		8	6
Nickel	Refined	Long ton	224			321	10	
Palladium		Ounce	5	5	15	8	10	
Phosphorus, Ferro-alloy	20-25% P	Long ton	23	12	6	23	12	6
Platinum		Ounce	21	15		24		
Rhodium		,,	27	10		40		
Selenium		Pound		10			14	4
Silicon	98% Si	Long ton	113	7	6	120		
Ferro-alloy	45% Si	,,	32	10		32	10	
,,	75% Si	,,	49			49		
Silver	Official, spot	Ounce			42¼			64
Tantalum, Ore	60-65% Ta_2O_5	Unit	11			11		
Metal	Powder	Pound	15				(e)	
Tellurium		Pound		8	9		12	6
Tin	99% +	Long ton	569			598		
Titanium, Ferro-alloy	20-25% Ti	,,	100			100		
,, Ilmenite	50-52% TiO_2, Malayan	Long ton	8			7	10	
,, Rutile	95% TiO_2, Australian	,,	24			22	10	
Tungsten, Ore	65%	Unit		116	3		90	
Ferro-alloy	80-85% W (a)	Pound		8			6	6
Powder	98-99% W	Pound		9			7	6
Vanadium, Ore	18-20% V_2O_5	Unit		70			80	...
Ferro-alloy	35-60% V (a)	Pound		15			15	
Zinc, Ore	52% R C	Long ton	13	5			nom	
Metal	G O B, foreign	,,	106			85	10	

(a) Per pound of base metal contained (b) Per pound of MoS_2 contained (c) Per pound of V_2O_5 contained (d) Plus 1s 7d per pound of alloy (e) Not quoted. (f) Jan 1, 1949 (g) Dec 15, 1949

(New York). This was an important contribution to our knowledge of jade, with 179 black and white illustrations and four full colour plates of notable jade objects. The third edition of E. S. Dana's *Minerals and How to Study Them* (New York), well adapted to the needs of beginners and amateurs, was revised by C. S. Hurlbut, Jr. The first edition appeared in 1895. The revised and enlarged 10th edition of G. F. Herbert Smith's *Gemstones* (London) was widely used. *Crystals and X-Rays* by Kathleen Lonsdale (New York) was intended for all interested in crystallographic science. *Probleme der Naturwissenschaften* by Paul Niggli (Basel) was an attempt to explain the concept, and its development, of the nature of crystals and minerals. *Gesteine und Mineral-lagerstatten* by Paul and Ernest Niggli (Basel) presented a modern treatment of rocks and mineral deposits. *Das Geheimnis der Kristallwelt* by H. Tertsch (Vienna) described in detail the history and development of crystallography and mineralogy.

Notable progress was made in Germany in re-establishing journals which were discontinued during World War II and in launching new ones. During 1949 the leading German journal devoted to gemology and jewellery, *Die Deutsche Goldschmiede-zeitung*, which ceased publication in 1943, began to re-appear. Moreover, two new journals were launched: *Edelsteine und Schmuck* was published at Idar-Oberstein, recognized as a leading gem centre for more than four centuries, and *Achat*, devoted to mineralogy, gemology and jewellery was issued at Hamburg.

The greatly increased application since 1939 of X-ray analysis and electron diffraction to the study of crystal structure and the solid state led to the formation of the Crystallographic Society of America and the American Society for X-ray and Electron Diffraction. As the functions and memberships of these societies overlapped, it was voted to merge them, as from Jan. 1, 1950. The new organization would be known as the American Crystallographic association.

The Washington A. Roebling medal was awarded to Herbert E. Merwin of Washington, D.C., by the Mineralogical Society of America at its annual meeting at El Paso, Texas, Nov. 11, 1949. For 40 years Merwin had been on the staff of the geophysical laboratory of the Carnegie institution. He had contributed extensively to the advancement of mineralogy and petrography. (*See* also MINERAL AND METAL PRODUCTION AND PRICES.) (E. H. KR.)

MISSIONS, FOREIGN RELIGIOUS. All over the world the enterprise of foreign missions continued to take the strain imposed by financial tension and, in many countries, by political developments or tendencies. Recruits were short except in the Roman Catholic missions.

India and Pakistan. New troubles were experienced in the state of Hyderabad and in Kashmir, but European missionaries remained at their posts and carried on their work. In the south the recently united Church of South India (Anglicans, Wesleyans, Presbyterians and Congregationalists) proved to be a steadying influence. In the north the aftermath of the separation of India and Pakistan continued to be felt,

especially in the Punjab and in the Northwest Frontier province. Around Delhi there was some return to Hinduism but the Indian clergy remained loyal. The future of the mission schools and colleges still remained uncertain. Unless adequate standards were maintained they would be taken over by the state. In India English was displaced by Hindi and Christian teaching was to be given outside school hours in the middle and primary schools. In Kashmir the government favoured the mission schools; but in Assam the government took over responsibility for them. Much the same was true of the mission hospitals and other institutions. On the other hand, church buildings, formerly the property of the British government of India, were being handed over to the missions by the new government, with a temporary grant for their maintenance.

In order to mitigate the effects of these changes, the Society for the Propagation of the Gospel set up a reserve fund for India and Pakistan, upon which the metropolitan bishop of Calcutta, in consultation with the provincial bishops, could draw for the next ten years, chiefly for stipends in those parts of the mission field where the local churches were contributing. Moreover, annual grants were to be gradually reduced, and a new policy of capital grants introduced, where local effort responded, in order to help to endow the church in India and Pakistan. The transfer of lands and buildings would go on.

Relief work among the Moslems in the North-West Frontier province impressed the Pakistan government. Progress was made in the Church Missionary society's area in the western Punjab where the offerings of village Christians were twice as high as in the previous year. The Baptists reported little or no interruption to their work, though they expected restrictions in the schools. At Serampore college they recorded a high enrolment of students, and also at Bishnapur where they co-operated with the Congregationalists. A scheme of union for the Baptists in north India was inaugurated.

Ceylon. The Methodists and Baptists reported improved relationships between the government and the missions after the declaration of Ceylon's independence on Feb. 4, 1948. There was no disturbance or communal strife. Christian teaching in the schools was forbidden in school hours; nevertheless, the classes held outside school hours were well attended. The Buddhists were adopting Christian methods in order to counter Christian propaganda. Negotiations to unite the Anglican, Methodist, Baptist and other Churches in Ceylon continued.

Burma. With China and Korea Burma was one of the most disturbed mission fields. Communists and insurgent Karens rendered the work difficult, although the latter opposed the separation from the British and continued to be the strongest Christian section of the population. It was difficult to obtain leave for missionaries to enter the country, except for those who were there before World War II. Yet Anglicans reported that buildings were being repaired in Rangoon and the Methodists reported the same at Mandalay, and that their work was progressing on the Assam border.

Far East. *China.* In spite of the spread of war to the southern provinces the spirit of the Chinese churches and missions was buoyant, especially where work was being done among students and young people. There were great opportunities in other branches of the work, but shortage of staff and rising costs prevented them being used. Inflation reached prodigious figures. Hospital work was being maintained, even in areas occupied by Communist forces. In the north some missionaries were working entirely cut off from communication with the home churches. The Baptists and Methodists reported that the National Christian council had organized a Forward movement. Nearly 1,000 students from 13 universities were baptized during the year, and the Methodists reported over 3,000 baptisms in the middle schools. The government permitted the teaching of the Bible in secondary schools in central China, where also the primary pupils crowded into the church services. Where they had to evacuate, the Baptist missionaries were co-operating with the Church of Christ, the London Missionary Society, the English Presbyterians, the American Baptists and Canadian missions. But the sweep of the Communists to the south would place new obstacles before all this work.

Korea. This was probably the most difficult field for missions in the world Political barriers separated north and south In the south the Americans restored freedom of Church life. The need was stressed for more missionaries who would stay for life, to replace those who were growing old. Higher education was in demand especially at the American Presbyterian and Wesleyan hostel at Seoul university.

Japan The Church Missionary society (C M S) reported the recommencement of church life at Hiroshima. The Japanese bishops and clergy asked for more missionaries to meet opportunities open on all sides. There was an evangelistic mission throughout Japan in the spring in response to a widespread desire to hear Christian teaching. By 1949 no field appeared to be more open to Christian missions

Singapore. Mission work was difficult on the outskirts owing to the interference of bandits, but the schools were full and more could be opened.

Borneo Schools were desired, people crowded to Christian preaching and the rebuilding of churches was going on

Middle East. The Christian Church in Palestine was scattered by the flight of the Arabs to Lebanon and Jordan; a despairing remnant remained in Palestine under the care of a few Arab pastors. The C.M S headquarters were in 1949 at Amman, Jordan, where relief work among refugees was being carried out by the missionaries. In Egypt the teaching of Christianity to children in the state schools was sanctioned and would be financed by the government. In the mission schools Moslem children should be taught the Koran. Closer relations with the Coptic Church were established in Cairo and in the towns around. In Persia Christian schools were restricted by the government and there was a shortage of doctors in the hospital, this hindered contact with the people. The Presbyterians of north Persia and the Anglicans of the south united to form a Christian Literature committee.

Africa. Christianity, Islam and political materialism were bidding for the soul of Africa. The African was taking up the function of leadership amid the industrial changes that were going on. The importance of schools and colleges in which these leaders could be trained was emphasised by the missions. On the Gold Coast, Anglicans and Methodists, in spite of nationalist ambitions, reported that educational work was progressing; there was no shortage of funds but recruits for the ministry were not forthcoming. In the Niger and Yoruba field the C.M.S. was fostering the development of Christian home life and also the provision of maternity homes. Shortage of staff hindered the work. In eastern Nigeria, the Methodists were co-operating with the C.M.S. and the Church of Scotland in a theological college. On the Congo, the Baptists reported that the schools were full. The Grenfell Training institute (Yalemba) for educational and pastoral work had a successful first year. On the middle Congo the work progressed in all its branches, but on the lower Congo it was hindered by shortage of staff while the Belgian government expected a higher standard in the schools in return for its subsidies. The Methodists reported that they could not meet all the opportunities in education. In Portuguese Angola, in spite of growing industrialism the

Baptist mission was advancing. In French Dahomey there was a revival of fetish worship among the converts

In the diocese of Zanzibar the Anglicans reported that new government salary scales increased the financial burden of educational and medical work. Moreover, since the African clergy were paid one-fourth the rate of a grade-one teacher, it was difficult to secure recruits for the ministry. In Nyasaland Anglican schools and hospitals were suffering from a reduction of staffs and medical units were being placed in charge of nursing sisters; but in most parts there was increased financial support In the Presbyterian and Dutch Reformed missions the salaries of the African ministers were entirely paid by Africans. In Northern Rhodesia, while commerce and industry expanded, pastoral and evangelistic work made little progress, through a shortage of European missionaries Here, as elsewhere, the visit of the bishop to the Lambeth conference in 1948 produced very few recruits. In Masasi diocese there was a sense of frustration owing to the slow progress of the groundnuts scheme Few European settlers supported the missions, though they were friendly. There were three more schools than in 1948, but the standard in the schools needed to be improved to retain government grants In Southern Rhodesia there was a great demand for baptism among the Africans who flocked into the towns for work, but the missionaries were too few to cope properly with the work. The Anglicans were preparing an evangelistic campaign for 1950. Several new parishes were founded; and the colleges at Gwelo and Penhalonga, founded largely by support from the Society for Promoting Christian Knowledge, were turning out well trained teachers.

In the Union of South Africa racial tension became more acute owing to the diminution of Native rights by the government The missions, through the Christian Council of South Africa, upheld the claims of the Africans Great opportunities for evangelism were being lost by understaffing and overwork among the clergy. However, new Anglican mission stations continued to be opened. The Roman Catholic and Methodists were at work on the new gold fields near Bloemfontein. In Basutoland the Roman Catholics and the Paris Evangelical mission were doing well, but the Anglicans were handicapped by lack of support However, at Pretoria a gift of £12,000 was received and would help Anglican schools and other institutions (A. J. MAC.)

MOHAMMAD, RIZA SHAH PAHLAVI, Shahanshah (king of kings) of Persia (b. Tehran, Oct. 26, 1919), succeeded to the throne on Sept. 16, 1941. (For his early life see *Britannica Book of the Year 1949*).

On Feb. 4, 1949, a newspaper photographer named Fakhr Rai, a member of the Tudeh (Masses) party, attempted to murder the Shah, firing five shots at 10 ft. range. On Feb. 24, asking for an amendment of the constitution, giving him the right to dissolve the Majlis and call fresh elections, the Shah said that the Majlis had done nothing to improve the economic position of the country, having not even passed a budget for the previous five years. In June he received the visits of Liaquat Ali Khan (*q.v.*), prime minister of Pakistan, and of Abdulilah (*q.v.*), the regent of Iraq. On July 28 King Abdullah (*q.v.*) of Jordan paid a state visit to Persia. During the year, in statements to foreign correspondents, the Shah appealed repeatedly to the west for financial aid to the country. On Nov. 16 he arrived in Washington on a six-week visit to the United States. He returned to Tehran on Jan. 2, 1950.

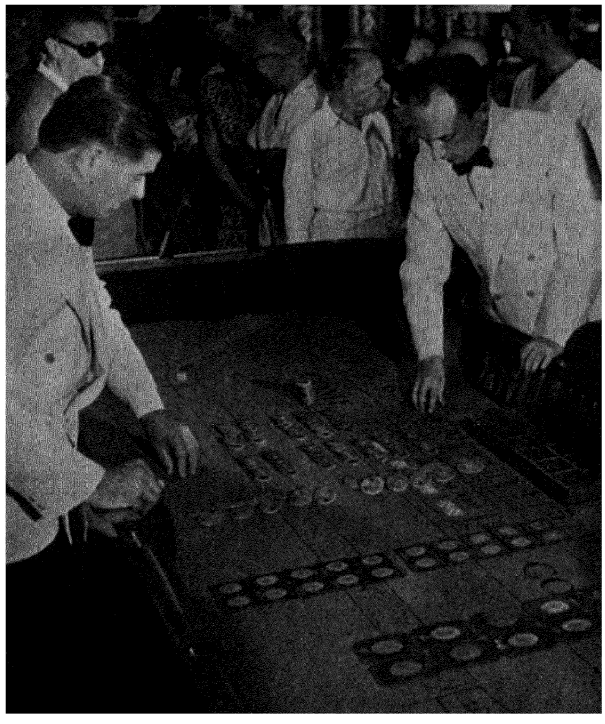
MOHAMMED BEN YUSSEF, Sultan of Morocco (b. Meknes, 1911), the third son of Mulay Yussef, of the Alaouite dynasty which had ruled the country from 1639. He was elected sultan on Sept. 18, 1927, by the college of *ulemas* of Fez. By virtue of being descended from the Prophet, he had the religious title of *sherif*. consequently he exercised both temporal and spiritual power. Taking seriously his role of sovereign, Sidi (or Sir, as he was styled) Mohammed held out against the forms of direct administration of the protectorate by refusing or delaying his signature of the *dahirs* (decrees having the force of law) which was essential to their validity Without taking any official stand, he made no secret of his goodwill towards the Istiqlal party working for Moroccan independence. He declared that he favoured democracy if considered as an application of the moral principles of Islam which respected the integrity of theocratic prerogatives. His elder son, Prince Mulay Hassan, constituted himself spokesman for Moroccan youth, and the eldest of his three daughters, Princess Lalla Ayesha, who threw off the veil and other traditional restraints, called upon Moroccan women to emancipate themselves. In a number of speeches after World War II the Sultan claimed the right of Morocco to achieve liberty, but without explicitly demanding independence His opposition to French rule was in general both subtle and controlled On April 10, 1947, however, at Tangier, he made a friendly reference to the Arab league and claimed independence for Morocco. The civil resident general, Eirik Labonne, was therefore recalled and General Alphonse Juin, exponent of authoritarian tradition, appointed in his place From that date the Sultan unremittingly continued his passive resistance So, in 1949, he protested against the speech of a French minister in which Morocco was regarded as an associated state within the French Union. (C. A. J.)

MOHAMMED ZAHIR SHAH, AL-MUTAWAKKIL-ALA-ALLAH, King of Afghanistan (b. Kabul, Oct. 15, 1914), son of Mohammed Nadir Shah. On his father's banishment by King Amanullah in 1924, Zahir studied at the lycées Janson de Sailly and Pasteur in Paris and later at Montpellier. Following the assassination on Nov. 8, 1933, of his father, who by defeating and executing the intervening ruler Habibullah had eventually become king after the abdication and exile of Amanullah in 1929, Zahir succeeded to power without difficulty, chiefly by reason of the support given by his uncles, one of whom, Sirdar Mohammed Hashim Khan, was prime minister and another, Sirdar Shah Mahmud Khan Ghazi, war minister and c. in c. On Nov. 7, 1931, he married his cousin, Umairah Begum, daughter of Sirdar Ahmed Shah Khan, and they had five children, including the crown prince Mohammed Akbar Khan (b. Kabul, Aug 10, 1933). On July 3, 1949, opening the National Assembly, the king said that Afghanistan did not recognize any agreements or pacts concerning the Indo-Afghan frontier concluded with Great Britain, as the British had left India (*see* AFGHANISTAN and PAKISTAN). On Oct. 13, 1949, he arrived in Paris for eye treatment and was received by President Vincent Auriol.

MONACO. A sovereign principality on the Mediterranean coast, 9 mi. E. of Nice, bounded on all land sides by the French *département* of Alpes Maritimes. Area: 0 6 sq. mi. Pop. (1946 census): 19,242 including 1,975 Monacans and 10,522 French. Ruler: Prince Rainier III; minister of state (appointed July 12, 1949) Jacques Rueff.

Prince Louis II Goyon de Matignon-Grimaldi, who died on May 9, 1949, was succeeded by his grandson Rainier (b. May 31, 1923), son of the hereditary Princess Charlotte-Louise-Juliette and of Count Pierre de Polignac. He was enthroned on Nov. 19.

Social changes of the postwar period were felt in Monaco. The casino of Monte Carlo, the financial mainstay of Monaco, saw its *salles privées* shut and the *roulette* players risking only modest sums. To attract tourists the casino broke its tradition



The American dice game, crap-shooting, being played for the first time at the Monte Carlo casino, July 1949.

by introducing in the summer of 1949 the American dice game of craps. A discussion was initiated with the French government with a view to "liberalizing" the French-Monacan financial agreement of April 14, 1945, by which the principality was submitted to strict fiscal and exchange control by the French authorities.

Finance. Budget (1950 est., million francs): ordinary, revenue 924·4, expenditure 884·8; extraordinary, revenue 120·2, expenditure 50·3.

MONGOLIAN PEOPLE'S REPUBLIC

(formerly OUTER MONGOLIA). A vast tableland bounded on the north by Siberia, on the east by the Mongol-populated fringes of the Manchurian provinces of China, on the west by the Chinese province of Sinkiang (part of the frontier being in dispute), on the south by the Mongol-populated fringes of the Chinese provinces of Ninghsia, Suiyuan, Chahar and Jehol. Area: 580,158 sq. mi. Pop. (according to Soviet figures published in 1948, but cited from data of 1941): 850,000. Religion: Lama-Buddhism, followed by the majority of the population, though the properties of the great temples and monasteries, formerly untaxed, have been appropriated by the state, and the "reincarnation" of "Living Buddhas" has been forbidden. Capital: Ulan Bator, formerly Urga (pop., 1941 est., 70,000). Chairman of the presidium of the Little Hural, Bumatsende; prime minister and commander in chief, Marshal Choibalsan.

History. The first, chronologically, of Soviet-dominated people's republics celebrated during 1949 the 28th anniversary of its national revolution and the 25th anniversary of the foundation of the present regime.

The foundation of the Mongol People's Revolutionary (Communist) party in 1921 was the occasion of a solemn meeting, at Ulan Bator on July 11. The main speakers were Y. Tsedenbal, secretary general, and Choizhamts, secretary of the central committee of the M.P.R.P.

More important still was the celebration of the anniversary of the adoption by the first Great Hural or people's assembly of the Mongolian constitution (Nov. 26, 1924). On this occasion Joseph Stalin sent a message to Marshal Choibalsan congratulating the Mongolian people for having liquidated through stubborn labour the heritage of the past, the age-old backwardness of the Mongolian people. Choibalsan replied by proclaiming that the Mongolian people owed their freedom and independence and all their achievements in state, economic and cultural construction of their country to "the many-sided and disinterested assistance of the great Soviet people."

At a big meeting held at Ulan Bator on Nov. 25, Surunzhab, deputy prime minister, reported on progress achieved in 25 years. Land cultivation was 173 times larger than in 1927; the *arats* (peasants) of Mongolia had organized 121 collective stock farms; livestock (horses, cattle and sheep) numbered in 1949 twice as many head as in 1924; extraction of coal (which began in 1915) had increased 127 times and the total number of industrial establishments was 252 times greater than a quarter of a century ago; by the end of 1949 there were in the country about 1,000 km. motor roads and on Nov. 7 the first railway line linking Ulan Bator to the Trans-Siberian was inaugurated. There were also big achievements in the cultural field: 25 years ago illiteracy had been almost universal; by 1949 it was reduced to 55·4%.

In April 1949 Dango Surun Neydachin, secretary general of the Revolutionary Union of Youth of Mongolia, took part in the 9th congress of the Young Communist league in Moscow. Tsedenbal, secretary general of the M.P.R.P., was present in Moscow on Dec. 21 at the celebration of Stalin's 70th birthday. Together with other people's republics Mongolia recognized the Chinese People's republic (Oct. 9).

The application of Mongolia for United Nations membership, already rejected in 1946 and 1947, was again opposed by the Security council on Sept. 15: U.S.S.R. and Ukrainian S.S.R. voted for; Canada and China against; Argentina, Cuba, Egypt, France, Norway, United Kingdom and United States abstained.

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MONIZ, ANTONIO CAETANO DE ABREU FREIRE EGAS,

Portuguese medical scientist and diplomat (b. Avanca, Portugal, Nov. 29, 1874), was educated at the universities of Coimbra and Bordeaux. Until 1911 he was a professor at Coimbra and from 1911 was professor of neurology at Lisbon university. He served in the Portuguese parliament, in 1918 was minister in Madrid and from 1918 to 1919 was minister of foreign affairs. He was a pioneer in the surgical treatment of mental disorders. In 1927 he invented "cerebral angiography," a method of visualizing the blood-vessels of the brain and making it possible to diagnose and locate cerebral tumours. On Oct. 27, 1949, it was announced that he had been awarded, jointly with Dr. W. R. Hess (*q.v.*), the 1949 Nobel prize for physiology and medicine for his discovery of the therapeutic value of the prefrontal leucotomy in the treatment of certain mental disorders.

MONTREAL.

A city in the province of Quebec, Canada, first called Ville Marie. The population of the city proper was estimated in 1949 at 1,420,057 and of greater Montreal at 1,650,011.

The port of Montreal is the largest in Canada. Deep-sea vessel arrivals in 1949 (commercial) numbered 1,112, with a net tonnage of 4,113,327. The number of coastal or inland vessel arrivals (commercial) in 1949 was 3,198, with a net tonnage of 3,502,218. During 1948 a total of 2,568,010 tons of cargo passed through the port, including 2,209,884 tons inward and 358,126 tons outward.

The assessed value of real estate, as of April 30, 1949, was $1,442·8 million of which $1,081·7 million was taxable. In 1949 building permits were issued for 4,717 new buildings, having a value of $78·2 million and for 2,878 repairs, having a value of $10·9 million. Bank clearings for 1949 were $13,911 million.

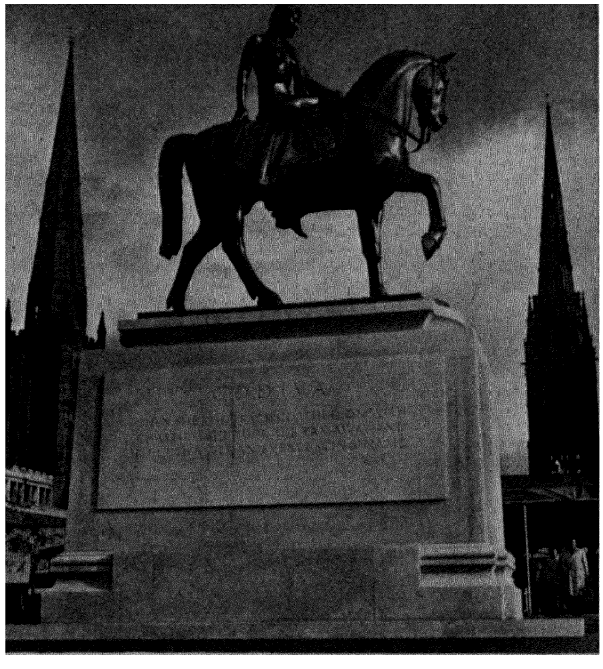
MONTSERRAT: *see* LEEWARD ISLANDS.

MONUMENTS AND MEMORIALS. 1949 saw the erection and dedication of many memorials to the fallen of World War II. On Remembrance Sunday, Nov. 6, many monuments were unveiled and many more were consecrated during the year. On Nov. 8 two memorial books containing the names of 20,000 men of the R.A.F. Bomber command who failed to return were placed in the Royal Air Force Chapel of St. Michael in Lincoln cathedral.

The Imperial War Graves commission continued to record and maintain graves of the fallen of two world wars and in November it was announced that 90,000 headstones for World War II had been made and engraved.

Ancient monuments under the ownership or guardianship of the Ministry of Works continued to increase in number. The report of the Ministry of Works gave details of 28 monuments and historic buildings for which the ministry took over responsibility during 1948. They included Hadleigh castle, Essex; Hailes abbey, Gloucestershire; Eynsford castle, Kent; Longthorpe tower, Northamptonshire; Caer Gybi Roman wall, Holyhead; Auchindoun castle, Banffshire; Drumin castle, Banffshire; Craignethan castle, Lanarkshire; Cairnpapple burial site, West Lothian; and Edron Old Norman archway, Berwickshire. A new edition of regional guides to ancient monuments in England and Wales was in preparation. Volumes had been published for North Wales, South Wales and Northern England.

A bronze equestrian statue of Lady Godiva (1040-1080) in Broadgate, Coventry, was unveiled by Mrs. Lewis Douglas, wife of the American ambassador, on Oct. 23. The statue, 9 ft. 6 in. above its large plinth of Portland stone, was the work of Sir William Reid Dick and was the first permanent memorial in Coventry to Lady Godiva. It had cost £20,000 and was presented by W. H. Bassett-Green.



The statue of Lady Godiva (1040-1080), by Sir William Reid Dick, in Broadgate, Coventry. It was unveiled by Mrs. Lewis Douglas, wife of the U.S. ambassador to Britain, on Oct. 23, 1949.

A stone plaque in memory of Sir Arthur Conan Doyle (1859-1930), was unveiled at 11, Picardy place, Edinburgh, in April. A plaque in memory of David Livingstone (1813-1873) was unveiled in September in Newstead abbey where he wrote *The Zambesi and its Tributaries.* The entrance arch of the Navy aisle in Portsmouth cathedral was dedicated on July 24 to Admiral of the Fleet Sir Osmond de Beauvoir Brock (1869-1947), chief of staff, grand fleet, 1916-19.

A public subscription of £25,000 was raised for an open air auditorium in the state of Victoria, similar to the Hollywood bowl, California, in memory of the Australian singer, Dame Nellie Melba (1861-1931). A memorial statue of General Sir John Monash (1865-1931), commander of the Australian Army corps in France, 1918, was being prepared in England for erection in the Melbourne domain in the shadow of the Shrine of Remembrance. The Australian-American society in October approved plans for the erection of a memorial in Canberra as a tribute to the contribution of the United States to the defence of Australia in World War II.

In Canada, the partnership of Australia, Canada, Great Britain and New Zealand in the British Commonwealth Air Training plan was commemorated at the Royal Canadian Air Force station, Trenton, Ontario, on Sept. 30. The memorial took the form of double main gates and posterns of ornamental handwrought iron made in Great Britain and bearing the coats of arms of the four nations. On July 27 a granite monument commemorating the landing of the first trans-Atlantic cables, 1858-66, was unveiled at Bay Bull's Arm, Trinity bay, Newfoundland.

In the United States, congress passed a bill, signed by President Harry S. Truman on Sept. 28, providing for a memorial to Mahatma Gandhi (1869-1948) in the form of a building containing books by and about him and of Indian culture.

In Israel the government decided to plant a forest in the Judaean hills in memory of Count Folke Bernadotte (1895-1948). In October was opened the Rathbone Memorial institute, in memory of Eleanor Rathbone (1872-1946), described as " champion of justice and a lover of children."

A statue by Gustaf Nordahl of the pioneer of Swedish gymnastics, Per Henrik Ling (1776-1839), was erected in Stockholm. On May 2, Oskar Helmer, Austrian minister of the interior, opened the former Nazi concentration camp at Mauthausen for public inspection, as a national monument to the memory of those who lost their lives there. (X.)

MORAVIA, ALBERTO, pseudonym of Alberto Pincherle, Italian novelist and essayist (b. Rome, Nov. 28, 1907), was compelled by an illness to leave school and live as an invalid for five years. In 1929 Moravia published his first novel, *Gli Indifferenti* which brought him immediate fame and was largely responsible for a new naturalistic and existentialist literary outlook in Italy. This and later novels were characterized by a realism and psychological interest reminiscent of some Russian writers, in particular Dostoyevsky. In general there was a pre-occupation with crime and self-destruction and, to present his subject truthfully, he often dispensed with conventional reticence. From 1929-42, while publishing novels and short stories, he travelled in England, France, Germany, the U.S.A., Mexico, Greece and China. *La mascherata,* a satire on the dictatorship, was written during this period, as also were *La bella vita* (1935), a collection of short stories, and *Le ambizioni sbagliate* (1935), translated into English in 1937 under the title *The Wheel of Fortune.* Later novels included *Agostino* (1945), for which

Moravia was awarded a literary prize, and *La Romana* (1947), both translated into English, the latter in 1949 as *The Woman of Rome*; *La disubbidienza* (1948); and *L'amore coniugale* (1949). Moravia also wrote *La speranza*, a collection of essays, and several books of short stories: *L'imbroglio* (1937); *I sogni del pigro* (1940), *L'amante infelice* (1943) and *L'epidemia* (1945) were also written by him Many of his books have been translated into several languages. Moravia contributed regularly to the daily newspaper, *Il Corriere della Sera*, and to a weekly magazine, *Il Mondo*

MOROCCO: *see* FRENCH UNION; SPANISH COLONIAL EMPIRE; TANGIER.

MOSCOW, capital of the Union of Soviet Socialist Republics and of the Russian Soviet Federated Socialist Republics and the fourth largest city of the world. Area: (1917) 68 1 sq mi., (1939) 110 1 sq mi. Pop.: (1917) 1,701,300, (1939 census) 4,137,018.

Moscow, which houses the headquarters of the vast administration of the state and the headquarters of the Communist party, exercised a magnetic attraction for the ambitious citizen who strove to get to Moscow, where the best jobs were to be had and where living was better than in the provinces. From about two million in 1926 the population reached over four million in Jan. 1939 and, though official figures were not available, it was generally accepted that the figure for 1949 was in the region of six million. The building programme had by no means kept up with this growth and, in spite of police efforts to relieve the town of any citizens who had no permit to live there and of legally laid down norms of accommodation, housing conditions were difficult, with two rooms as the average allowance for a family.

The main streets, which radiate like spokes of a wheel from the crenellated walls of the Kremlin with two ring-roads which link them, showed signs in surfacing, tree-planting and laying-out of flowerbeds of the civic pride of the City Soviet, though the side-streets failed to live up to their standards. The crowds thronging the main shopping streets showed in the general shabbiness of their dress that in 1949 the Soviet Union still had a long way to go before the needs of all could be met. However, supplies of food and consumer goods in the shops maintained signs of improvement, queues decreased and, most important of all, prices of some classes of goods were lowered. The citizens of Moscow still had to struggle with congested public transport, in spite of the continued efforts to improve it. But, whatever the rigours of life and travel, Muscovites enjoyed the consolation of good theatres, excellent concerts and the best ballet in the world. (R. PSR.)

MOTION PICTURES: *see* CINEMA.

MOTOR-BOAT RACING. The 46-year-old Harmsworth trophy (British international trophy for power boats), held by American boats since 1920, returned to competition in 1949 for the first time since 1933, with a Canadian challenge by E. A. Wilson's "Miss Canada IV," driven by the owner's son, Harold Wilson. The races for it on the Detroit river, July 29-Aug. 1, were won by R. Stanley Dollar, Jr., of California, driving his "Skip-A-Long." He averaged 94 285 m.p.h. to lower the previous (1931) Harmsworth record of 89·913 m.p h

Though it failed to take the Harmsworth trophy, "Miss Canada IV," early in October at Picton, Ontario, set up a new North American straightaway speed record of 139·5 m.p.h., a close call for the world's motor-boat speed record of 141·74 m.p.h. made by Sir Malcolm Campbell in 1939 with "Blue Bird II." An unsuccessful attempt to beat this record was made in England by Sir Malcolm's son, Donald Campbell, on Lake Coniston.

The North American record, made by Gar Wood in "Miss America X," had stood for 17 years until Aug. 20, 1949, when it was broken by Dan Arena, driving Jack Schafer's "Such Crust," on Gull lake, Michigan, at 126·588 m.p h , a record which lasted only 6 weeks before Wilson broke it with "Miss Canada IV."

Outstanding among unlimited speedboats in American racing during 1949 was Horace Dodge's Hacker-built, Allison-powered "My Sweetie," driven by Bill Cantrell With the single exception of the Harmsworth, "My Sweetie" won every race it entered during the year, including the Gold cup and Silver cup events at Detroit, Michigan, free-for-alls at Red Bank, New Jersey, and Buffalo, New York, and the President's cup race at Washington, D.C. (W. H. TR.)

MOTOR CYCLE AND CYCLE INDUSTRY. Increased production in 1949 in both branches of the industry in Great Britain was still not capable of supplying the demand in the home market and in the export fields, where British cycles were still attracting the greatest interest. The industry produced mainly for the export market and in the first nine months exported 50,969 motor cycles and 1,705,836 cycles The total value of the trade's exports for the period Jan.-Sept., 1949, including parts and accessories worth £5,322,956, was £22,436,208.

The largest export market for motor cycles was Australia which was importing from Britain at the rate of about 2,000 machines a month. India, Pakistan, South Africa, British West Africa, Malaya and Indonesia were the chief markets for British pedal cycles.

TABLE.—PRODUCTION AND EXPORT OF MOTOR CYCLES AND CYCLES

	Motor Cycles		Cycles	
	Produced	Exported	Produced	Exported
1947 . .	111,788	55,318	2,492,096	1,449,082
1948 . .	133,500	75,136	2,939,000	1,804,878
1948				
Oct. . .	11,470	4,864	260,200	150,400
Nov. . .	11,650	7,098	248,500	173,900
Dec . .	13,500	7,902	272,900	170,600
1949				
Jan. . .	13,070	7,561	274,600	186,158
Feb . .	12,350	5,615	282,800	175,518
March . .	14,630	6,539	317,100	221,710
April .	11,440	4,908	262,500	186,133
May	12,610	6,576	315,900	201,271
June . .	15,120	5,277	294,500	176,666
July . .	10,880	4,359	244,900	203,000
Aug. . .	11,500	4,822	276,100	176,600
Sept. . .	13,490	5,087	332,000	177,900

SOURCE: *Monthly Bulletin of Statistics*, H M S O , London

Until the summer of 1949, India was by far the best customer for cycles, but the introduction of a tariff on British bicycle products of 60% *ad valorem* seriously restricted trade. In June the value of the exports of cycles to India was £346,607 but in September it was only £7,482. Raleigh Industries, Ltd., announced in November the formation of Sen-Raleigh Industries of India, Ltd.; land was acquired at Asansol, 150 mi. from Calcutta, where it was hoped to start production in 1951 with an initial output of 50,000 bicycles a year. Hercules announced in October that it was entering the Indian market with a factory in Madras. Its products would be sold under the name of "Hercules India." The B.S.A. company was also planning to manufacture cycles in India.

The silver jubilee Cycle and Motor Cycle show was held at Earls Court, London, in October. Export orders were at least double those received at the 1948 show. The export figures achieved by the industry during the year gave encouragement but there was fear of possible competition from Germany and Japan. Before World War II the total cycle

exports from Germany were worth approximately £3 million, while in 1948 the bizone exported cycles and components worth only £800,000. In 1940 Japan produced 1,245,000 cycles and in 1948 only 337,000. The Japanese industry improved its position in 1949; the production for the first five months was at an annual rate of 474,000. In both these countries, cycle production, although far behind the prewar average, was slowly increasing and British manufacturers saw in this a possible reduction in future exports.

For the first time springing and other devices developed from British racing motor cycles were available in two-stroke models for the general public.

BIBLIOGRAPHY. "The Cycle Industry," *Planning*, vol. XVI, no. 304, P.E.P., London, Oct. 1949; H. R. Watling, "Britain is the World's Greatest Exporter of Bicycles and Motor Cycles," *Board of Trade Journal*, vol. 157, no. 2758, H.M.S.O., London, Oct. 1949. (X.)

MOTOR CYCLING. The premier award in the international six days' trial held in Wales was won by Great Britain. The British team of B. H. M. Viney (A.J.S.), F. M. Rist (B.S.A.), P. H. Alves (Triumph), C. M. Ray (Ariel) and C. N. Rogers (Royal Enfield) rode without loss of marks. The Czechoslovakian team was second with a loss of 29 marks. Czechoslovakia won the subsidiary silver vase competition with Great Britain second; neither team lost marks, the tie being decided on a special test. Great Britain won the only manufacturers' team prizes awarded.

Of the world's five road-racing championships three were won by British riders and machines: 500 c.c., R. L. Graham (A.J.S.); 350 c.c., F. L. Frith (Velocette); sidecar, E. Oliver (Norton). The Italians N. Pagani (Mondial) and B. Ruffo (Guzzi) won the 125 and 250 c.c. championships.

The winners of the Isle of Man Tourist Trophy races were: senior, H. L. Daniell (Norton); junior, F. L. Frith (Velocette); lightweight, M. Barrington (Guzzi). The senior Manx Grand Prix was won by G. E. Duke (Norton); the junior race by W. McCandless (Norton).

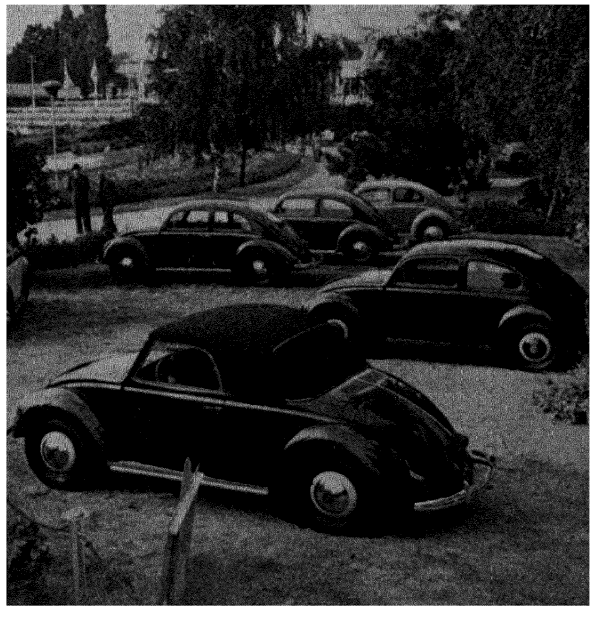
The other international races were won by: 350 c.c., F. L. Frith—Swiss, Dutch, Belgian and Ulster Grands Prix; 500 c.c., R. L. Graham—Swiss and Ulster, W. Doran (A.J.S.) —Belgian, N. Pagani (Guzzi)—Dutch and Italian; 250 c.c., B. Ruffo—Swiss, M. Cann (Guzzi)—Ulster, D. Ambrosini (Benelli)—Italian.

America's premier event at Daytona saw British Norton machines finish first, second and third in the professional race; first and second in the amateur race. (G. WA.)

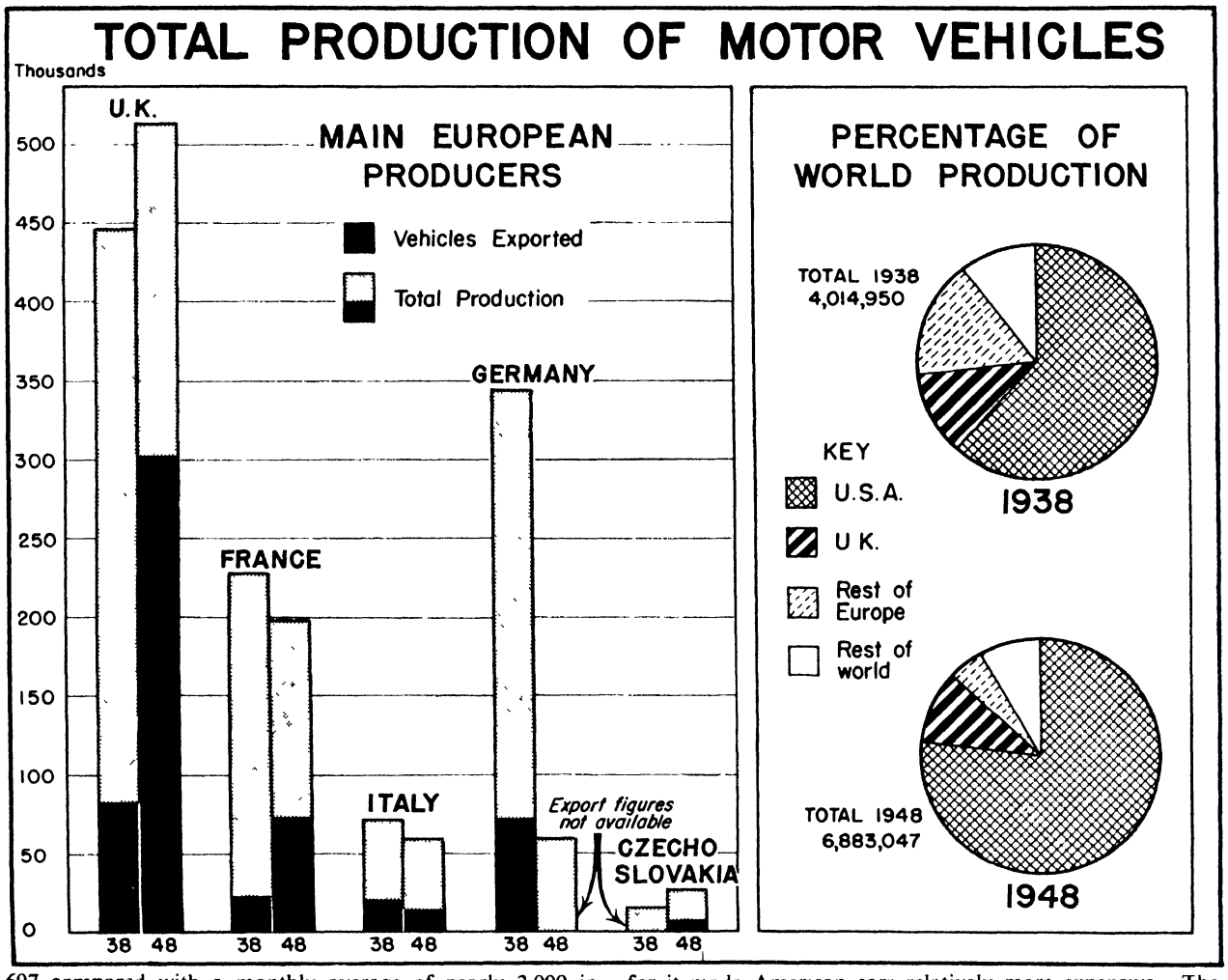
MOTOR INDUSTRY. By Nov. 1949 the British motor industry was producing at an annual rate of 390,000 cars, 210,000 commercial vehicles and over 100,000 agricultural tractors, and throughout the year it kept the position it had gained in 1948 as the largest exporter of motor vehicles in the world. The great, banked-up domestic demand for cars, estimated at between half and three-quarters of a million, remained on the order books of British distributors, while 70% of the cars and 50% of the commercial vehicles made in the country were sent overseas. The home market had an unexpected windfall of about 50,000 extra cars in the summer as a result of the dock strike, the temporary closure of the South African market and the low sales in the United States in the months before devaluation. In spite of this the target earnings of foreign currency, set by the government, were surpassed in the case of motor cars and all but attained by the makers of commercial vehicles and agricultural tractors.

Prices and Raw Materials. During 1949 manufacturers took steps towards the simplification and standardization of their models and the "Big Six" formed a standardization committee whose purpose was to reduce the varieties of components used in the mass-produced makes of car. The consultation and exchange of information between the Austin and Nuffield companies which had been projected in 1949 did not materialize but Nuffield proceeded with the rationalization scheme which included the geographical concentration of units of production. In fact, however, the main element of cost lay outside the maker's control for it consisted of raw materials, which had increased 2½ times since prewar days, and bought-out parts. Taken together these items form 65% of the cost of a mass-produced car. Another—and in the long run a more important—cause of high prices was the fact that the industry was only producing at 75% of its capacity of 800,000 units a year. Here the limiting factor was lack of sheet steel. This deficiency could not be met from domestic production because of limited plant capacity and, being unwilling to deny steel to other users, the minister of supply was left with the alternative of increasing imports of steel sheet from the U.S. During the first three quarters of 1949 these had amounted to 15,098 tons—enough to make 30,000 cars. At the end of October the ministry, encouraged no doubt by the greater volume of sales in the U.S. following devaluation, announced that there would be an increase in the steel allocation and that this steel, most of which would have to be paid for in dollars, would go to those manufacturers who were most successful in their exports to the U.S. This meant in practice the "Big Six" who were the only manufacturers capable of maintaining a rate of export of over 75% of production during 1949.

Exports. Whatever its value to the country the U.S. dollar harvest was the most difficult of all to reap. Even in 1948 manufacturers had been selling their cars at prices that represented a net loss or at any rate a substantially lower rate of profit than was to be gained in soft-currency markets. The only incentives in fact to export to what L. P. Lord called "the hardest and toughest country in the world in which to sell anything" were the obvious national necessity, the threat by the Ministry of Supply to withhold steel supplies from unsuccessful exporters and the hope that costs would be gradually reduced as the sales of British cars in the United States grew in bulk. The American recession, signalized by a reduction in U.S. car prices, made the situation in early 1949 more difficult still and in February shipments fell to



The German "Volkswagen" on view at an open-air motor show in Berlin, Sept. 1949.



697 compared with a monthly average of nearly 2,000 in 1948. The months which followed, when the world, and particularly the U.S., was waiting for Great Britain to devalue the pound, saw a further decline in shipments until in August only 158 cars were sent to the U.S.

The impetus given by devaluation was immediate and dramatic and the American distributors cleared their stocks within a few days and placed large new orders. Retail prices were reduced by between 16 and 20% on the mass-produced models and there was a large demand even for some of the more expensive makes. At first it was asked whether this was not after all mere panic buying, to be followed in the months ahead by a gradual decline in sales. But the demand held till the new year and manufacturers were fully committed in the U.S. market for some time to come.

In spite of the fact that British makers had not cut prices by the full margin of devaluation the American market was still not a profitable one. Charges for freight, handling, duty and the American distributors' margin still had to be paid in dollars and from the exporters' point of view these were at a less favourable rate. At the same time raw materials had increased in price and it was likely that wages too would soon rise as a direct result of devaluation. Nevertheless manufacturers were determined to stay in the U.S. market and they had every confidence in their ability to do so now that the heavy initial cost of breaking into it had been paid.

Although devaluation as a policy had chiefly aimed at increasing sales in the United States it had the paradoxical effect of stimulating demand from other markets as well, for it made American cars relatively more expensive. The world-wide shortage of dollars also led to increased sales of British cars, notably in Canada, where, in the third quarter of the year (when American purchases had dwindled to a mere trickle), 9,522 cars were exported compared with an average quarterly figure of 526 in 1947 and 3,654 in 1948. Throughout 1949 Australia remained the largest buyer of British cars taking no less than 22,276 in the third quarter. The South African import restrictions, first on built-up cars and then on C.K.D. also, caused a drop from 6,700 in the second quarter to 2,383 in the third. But with devaluation and the new price of South African gold it was expected that the government of the Union would reconsider its restrictions.

Trends in Design. In the first six months of 1948 25% of British cars exported had an engine capacity of more than 1,600 c.c.; in the same period of 1949 this percentage had risen to 35. These figures indicated the importance which manufacturers had attached to the demand in overseas markets when designing their 1948 models. They had also, no doubt, calculated that the British motorist would demand a larger car as a result of the introduction of the new flat rate of motor taxation in 1948. There was evidence, however, that designers were not prepared to commit themselves wholly to the production of larger cars. Already in 1948 Lord Nuffield had produced a new version of the Morris "Minor" and in Oct. 1949 the chairman of the Austin company announced that if Austin produced a new model it would be a "Seven."

Osmania University Library, HYDERABAD (DECCAN).

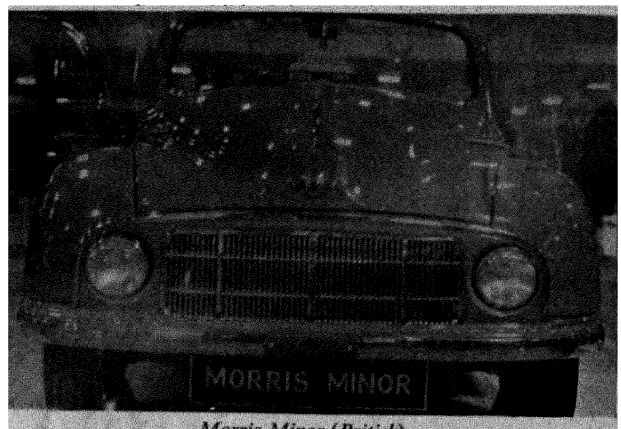
Further evidence of the makers' unwillingness to abandon the small-car field was provided by the appearance at the Earls Court motor show of the Triumph " Mayflower "—the only entirely new British car on view—with an engine of 1,250 c.c. Except for this car and the six-cylinder Rover " 75," the coachwork of which had been completely modernized as well as the gear-change and other features, the British cars on view were modified versions of those which had first appeared in 1948. The capacity of the Hillman " Minx " engine had been increased to 1,265 c.c.; the Jowett Javelin appeared as an open tourer as well as a saloon; there was also a saloon version of the Austin A " 90 "; and Rolls-Royce showed their first model with coachwork by the parent company. Two new commercial vehicles appeared in 1949: an A.E.C. truck with a direct-injection diesel engine of 11·3 litres capacity and a Guy " Otter " with a load capacity of five to six tons and three alternative lengths of wheel box. Both models illustrated the efforts of British commercial vehicle manufacturers to cater for the diverse needs of overseas users. It was also encouraging to note that by 1949 British factories were producing every type of agricultural tractor, including the heaviest " crawler " types; domestic production of these essential agricultural tools would save both Britain and the sterling area many dollars.

Europe and the Dominions. The French industry made notable progress in 1949: production increased by 50% to 300,000—the figure laid down in the Monnet plan—and by the time of the Paris *Salon* in October it was clear that the industry had passed out of the prototype stage and that series production, particularly of the miniature cars which had, after the close of World War II, become the backbone of the industry, had swung into its full stride. About 40% of the total production was exported. The search for economy continued and to the Renault 4 h.p. (which by October was being produced at the rate of 315 per day), the Dyna-Panhard and other small French cars was added the new Citroen 2 h.p. This car had an engine capacity of only 375 c.c. but was capable of carrying four passengers and 100 lb. of luggage. The price was to be Fr.229,000—50,000 less than the baby Renault and the petrol consumption was claimed to be 71 mi. to the gallon. Citroen had not been scheduled under the Monnet plan to produce a small car but the makers pointed out that their enterprise was in accordance with the need of the country for economical transport.

In Italy production of motor vehicles had risen to an annual rate of 70,000 during the first six months of the year. This was 25% more than the total in 1948 and 16% more than the 1938 figure. Within this total, however, production of cars had risen since 1946 by three times while the production of trucks had fallen to a third of the 1946 rate. It was learnt during the year that the Fiat company was to receive dollar loans totalling $25,700,000 from Economic Co-operation administration and the Export-Import bank for the expansion and re-equipment of their plant. Most of the sum was earmarked for the motor-car division of the company. In August west German production reached a new postwar record of 15,628 units.

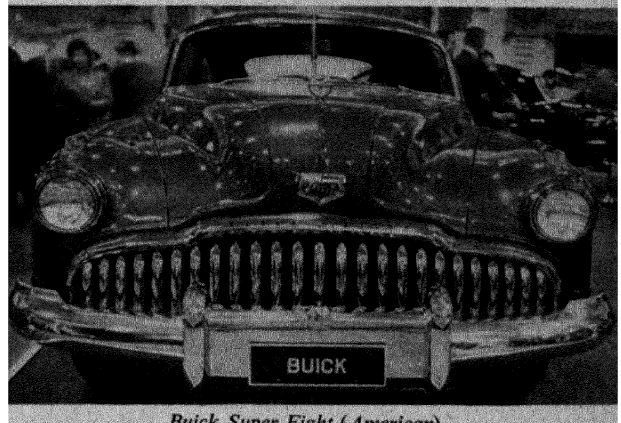
In Australia a factory was set up for the assembly of Standard and Triumph cars and Ferguson agricultural tractors; and an Australian company began to produce a low-powered three-wheeler which would cost only £A250 and would do 60 mi. to the gallon. During 1949 India produced its first agricultural tractor and the Rootes group's new assembly plant went into production. In New Zealand there was an expansion of assembly plant and in May it was announced that no more import licences would be granted for built-up vehicles. (X.)

United States. In 1949 output of vehicles was 6,255,401. This exceeded the long-standing record of 1929 by more

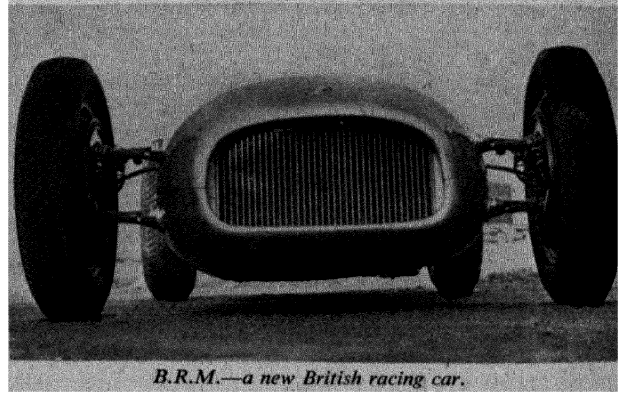


Morris Minor (British).


Lago Tourer Sports (French).



Buick Super Eight (American).


B.R.M.—a new British racing car.

EXPORTS OF CARS, COMMERCIAL VEHICLES AND TRACTORS FROM THE UNITED KINGDOM 1947-49 (By Quarters)

To	1947	1948	1949				Value
	Quarterly averages		1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	1949
Australia	4,776	13,346	15,823	15,638	22,276	10,311	£23,260,000
Canada	526	3,654	4,314	7,772	9,522	3,236	£7,840,000
New Zealand	3,583	2,311	2,505	2,731	3,102	1,072	£2,690,000
Belgium	3,053	3,751	2,237	3,606	2,645	1,532	£3,550,000
South Africa	2,377	4,060	6,377	6,700	2,383	1,057	£5,060,000
Brazil	608	1,775	2,119	2,116	1,792	625	£2,580,000
Netherlands	1,110	1,270	2,372	1,958	1,546	578	£1,850,000
Malaya	1,124	1,432	1,194	872	1,471	611	£1,550,000
Ireland	1,430	1,511	1,375	1,848	1,605	833	£1,880,000
Switzerland	1,496	1,223	1,268	1,534	1,011	552	£1,780,000
British East Africa	373	1,057	1,009	945	995	1,305	£1,375,000
British West Africa	518	613	610	875	796	944	£1,078,000
Other Commonwealth countries	6,546	7,586	6,932	6,688	4,645	417	£5,777,000
U.S.A.	282	6,124	2,377	705	521	1,038	£1,850,000
Other foreign countries	7,922	7,015	7,077	7,312	5,667	2,241	£9,020,000
TOTAL Cars	35,724	56,728	57,589	61,300	59,977	26,352	£71,140,000
Commercial vehicles	6,020	9,148	11,452	10,477	9,191	13,623	£19,200,000
Chassis for commercial vehicles	6,389	9,625	11,897	11,623	11,572	13,252	£23,000,000
Agricultural tractors	4,190	16,941	25,420	12,551	11,560	14,389	£19,300,000
TOTAL Motor vehicles	52,323	92,442	**109,358**	**95,951**	**92,300**	**67,616**	£132,640,000

than one-sixth. Passenger car production reached a total of 5,119,911—an increase of 11·6% over 1929, 35·5% over 1941, and 31% over 1948. The output of motor lorries was 1,135,490, 47·3% over 1941. Compared with 1948, however, there was a decrease of 18·5%.

The 1949 wholesale value of passenger cars was estimated at $6,900 million, an increase of 42% over 1929, 169% over 1941 and 42% over 1948. Motor truck wholesale value was estimated at $1,560 million, an increase of 175% over 1929, 46% over 1941, but reflected a decrease of 16% below 1948.

The activities of the motor industry as a whole remained remarkably steady throughout the year, in terms of number of units produced, despite the strike in one large company during part of the month of May, and the major strikes in the steel and coal industries during the latter part of the year. This relative stability in production activity was made possible by the foresight of motor vehicle manufacturers in purchasing reserve supplies of steel, coal and other materials in anticipation of a possible major strike in those industries.

As in the preceding year, foreign markets continued to reflect the shortage of American dollars, resulting in a decrease of 35·6% in factory sales of passenger cars to foreign markets, and a decline of 37·3% in the number of lorries for export, or a combined decrease of 36·5%. The decrease was progressive throughout the year, reaching its lowest point in December.

The demand for lorries continued to be for a higher proportion of the lighter type of vehicles. During the first 11 months of 1949, 45·3% of motor lorry factory sales was in the 5,000 lb. class and under (gross vehicle weight), as compared with 36% in 1948 and 30·6% in 1947.

Preliminary registration totals released by the U.S. Bureau of Public Roads for the end of 1949 were 35,491,000 passenger cars and 7,807,000 lorries and buses, or a combined total of 43,298,000. This was an increase of 6·7% over 1948 for passenger cars and 6·1% increase for lorries. (O. P. P.)

MOTOR RACING. The most outstanding Grand Prix successes in 1949 were recorded by the improved Italian 1½ litre 12 cylinder Ferrari, with the older Maserati cars offering the most serious opposition. Notable absentees from the leading events were the Alfa Romeo cars.

A new ace appeared in Juan Manuel Fangio, who, after a succession of brilliant Grand Prix successes at Pau, Perpignan, Marseilles and Albi, France, and Monza, Italy, early in the year, returned to his home in the Argentine.

The 300 mi. British Grand Prix held on the Silverstone aerodrome circuit was won by Baron Emannuel de Graffenried (Maserati) at 77·31 m.p.h., with F. R. Gerard in his 1937 E.R.A. second.



The Austin A90 "Atlantic" Convertible on the Indianapolis Speedway, Indiana, U.S.A. where the car covered 11,850 mi. in seven days and broke 63 American stock car records.

Louis Rosier, in an unsupercharged Talbot-Lago, secured a surprising victory in the Belgian Grand Prix when, at 96·95 m.p.h., he defeated Luigi Villoresi (Ferrari). His team mate, veteran Louis Chiron, also finished ahead of the Italians in the French Grand Prix which he won at 99·98 m.p.h.

Alberto Ascari, leading Ferrari driver, established himself as Europe's best by winning the Bari (Italy) Grand Prix at 73 m.p.h., the Swiss Grand Prix at 90·76 m.p.h., the British Racing Drivers' Club's international trophy race at Silverstone at 89·58 m.p.h. and the Grand Prix of Europe on the Monza circuit at 105.08 m.p.h. Other Ferrari successes included the Zandvoort (Netherlands) Grand Prix (driver Villoresi) and the Czechoslovak Grand Prix (driver Peter Whitehead).

The British Automobile Racing club ran two successful meetings on the Goodwood aerodrome circuit where Reginald Parnell (Maserati) established new lap records at over 87 m.p.h. and Stirling Moss, in his tiny 500 c.c. Cooper, lapped at over 82 m.p.h. The British Empire Trophy race held under Grand Prix formula in the Isle of Man was won by F. R. Gerard (E.R.A.) at 71·06 m.p.h. The Jersey international road race, was won also by Gerard at 77·10 m.p.h.

The Italian 990 mi. mille miglia race, with a field of 302 cars, was won the third time in succession by Clemente Biondetti (Ferrari) at 81·687 m.p.h., while the winner of the touring class was T. H. Wisdom (Healey) at 68·738 m.p.h.

The year saw a great revival in sports car racing. Clemente

Biondetti (Ferrari) won the Targa Florio race round Sicily, while L. Chinetti, also in a Ferrari, won the two 24 hr. classic events at Le Mans (France) and Spa (Belgium). At Le Mans, with Lord Peter Selsdon as his co-driver, he covered 1,970 mi. at an average speed of 82·27 m.p.h.; at Spa, with J. Lucas, 1,899 mi. were covered at 78·7 m.p.h.

One of the most outstanding events of the year was a one-hour race for production cars held at Silverstone. Winner in the general classification was L. G. Johnson who in a new 3½ litre standard Jaguar two-seater sports car averaged 82·8 m.p.h. British hill climb champion was Sidney Allard (3,700 c.c. Allard). (CH. FL.)

Bill Holland of Reading, Pennsylvania, after being second to Mauri Rose of South Bend, Indiana, in the two preceding years, captured the 500-mi. Memorial day classic at Indianapolis speedway at a record average speed of 121·327 m.p.h. Duke Nalon cheated death in the 24th lap when a wheel tore loose and his car burst into flames as it struck a wall. Nalon had set a first-lap record of 126·564 m.p.h. The former record of 123·02 m.p.h. had been established in 1948 by Rex Mays of Glendale, California, who met his death in a motor racing accident on Nov. 6, 1949, at Del Mar, California.

Alex Xydias of Burbank, California, set a world record of 153 m.p.h. at the first annual meeting for American stock power motor cars at Bonneville Salt Flats, Utah. Xydias had held the previous record of 138·74 m.p.h. (T. V. H.)

MOTOR TRANSPORT. The British Transport commission's accounts published in its *Report and Accounts for 1948* (H.M.S.O., Sept. 1949) showed a deficit of £4·7 million for the calendar year 1948; by the beginning of November it was clear that the deficit would approach £20 million and authority was asked of the minister of transport to raise freight rates on the railways by 16·5%. This was a stopgap measure designed merely to cut down future losses and ran counter to the expectations of the public and the intentions of the commission that nationalization of transport should bring with it a co-ordination of charges and a general integration of all forms of transport.

The Transport commission had been required under the act to produce a charges scheme and submit it to the Transport tribunal by Aug. 6, 1949, but it was found impossible in so short a time to produce such a scheme in view of differences between the systems in use in the several branches of the transport industry and a further two years was granted by the minister. The commission was well aware, however, that an overall scheme of charges was the foundation-stone of a properly integrated transport structure. The responsibility for this work was given to the Charges committee.

The work of co-ordination, apart from charges, went on and the most important task of examining branch-line traffic with a view to the substitution of road services resulted in the closing down of several branch lines during the year. Radical changes could not however be expected at this stage; and when Sir Cyril Hurcomb, the chairman of the commission, announced the setting-up of the new transport research organization he said that the most economic distribution between road and rail services could not be judged until arrears of maintenance had been made up and obsolete stock replaced on the railways. It was reasonable to suppose that until the railway system had been modernized and pruned of dead wood the road services would take the financial load; nevertheless it was hoped that the "bold application" of this sharing principle would not lead to heavily increased road charges.

Road Passenger Transport. At the end of 1948 the commission had acquired the 15 or so bus companies which made up the Tilling group. On Jan. 25, 1949, it also acquired control of the Scottish Motor Traction group for £23½ million. Thus by the beginning of the year the commission controlled nearly 20,000 buses and coaches including those belonging to London Transport. It also held large interests in British Electric Traction and its subsidiary companies. It was never the intention, however, that the commission should directly control even a majority of the bus services in the country: the function of the Road Transport executive and of the Road Passenger executive which succeeded it in 1949 was to co-ordinate, in conjunction with the local authorities, the bus services in different areas.

The first scheme under section 63 of the act was for the northern area comprising Northumberland and Durham and a large part of the North Riding of Yorkshire. The scheme affected 6 local authorities, 1 joint board and 130 undertakings. The proposals included the setting-up of an area board with a chairman and from 7 to 11 part-time members. Under the area board would be three districts, each under a manager. The area board was to have as much autonomy as it was possible for the commission to grant under the act and there would be consultations between the board and the railway executive to co-ordinate services.

During 1949 some 1,600 new or reconditioned buses were put into service by the London Transport executive. Though this was twice as many as in the previous year the figure did not cover the number of old buses withdrawn from service and the greater operating efficiency in terms of miles run was largely gained at the expense of passengers' comfort. However, Lord Latham, chairman of the London Transport executive, expressed optimism about the situation in 1950 when there would be a net increase in numbers of buses and trolley buses and a consequent expansion of services. He also announced that preliminary steps were being taken for the conversion of the south London tramways into bus routes and that 16 new garages or converted depots were to be built at a cost of £4,600,000. For the more distant future the executive was preparing the re-organization of its services to meet the decentralization of population under the government's plan for London.

Statistics taken from the *Report* showed an interesting comparison between the costs and takings per car/mi. for the different services of London Transport during 1948.

TABLE I.—LONDON TRANSPORT

Expenditure per car/mi	*Buses and Coaches*	*Trolley buses*	*Trams*
Operating costs	14 77*d*	16 03*d*	16 88*d*.
Maintenance and depreciation	4 31*d*.	4 99*d*.	7 22*d*.
General expenses	1·96*d*.	1 91*d*.	2 09*d*.
Total	21 04*d*.	22 93*d*	26 19*d*.
	Buses and Coaches	*Trolley buses and Trams*	
Average takings per car/mi	24 41*d*.	23·81*d*.	

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Figures of average takings were not available for the provincial and Scottish services, nor were the figures for expenditure exactly comparable with those of London Transport but, nevertheless, they are worth recording:

TABLE II.—PROVINCIAL AND SCOTTISH
(April to Dec. 1948, only)

	Provincial	*Scottish*
Operating costs	10 51*d*.	8 44*d*.
Maintenance and depreciation	4 37*d*.	4·03*d*.
General	1·48*d*.	1 23*d*.
Total	16 36*d*.	13 70*d*.

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While in 1948 fares on the railways had increased by 55% over the 1938 level, those of London Transport were only 30% up and fares on the provincial and Scottish services were the same as before World War II.

Road Haulage. Under part III of the act the commission was to have the sole right to carry on long-distance haulage

for " hire or reward " (except in the case of goods like petrol, milk and timber for which specialized vehicles were needed) after an appointed day to be fixed by the minister. In November the minister announced that the day had been fixed as Feb. 1, 1950. After this date only firms which had been operating on Nov. 28, 1946, and had original permits or those which had since been granted permits to operate could continue in their business, and then only until the Road Haulage executive was ready to take them over.

In 1948 a nucleus of important road haulage concerns had been taken over by the commission. Some of these were part of the assets of the railways and others had been taken over by agreement or by compulsory acquisition. By the end of 1949 30,000 vehicles—three-quarters of the total in the A and B licence class—had been acquired and an organization comprising eight regional divisions and districts set up to control them.

In its *Report* the commission called attention to the post-war growth in the numbers of C licence holders. In 1947 there had been 487,151 vehicles under C licence and by the beginning of 1949 the figure was 590,516. These traders, who, so long as they carried their own goods, would be able to operate within any distance of their base, formed a hard core of competition to the services provided by the commission; and the *Report* stated, rather ambiguously, that although most of the vehicles were under 30 cwt. and were therefore presumably engaged in retail distribution, the increased use of C licensed vehicles affected the commission in planning, in fixing charges and in the eventual integration of its services. There were critics of the commission who foresaw curtailment of the " privilege " of C licences when the commission really found itself up against competition from that quarter; others pointed to the attitude of the chairman who was inclined to face the challenge and await results. A clear indication of the future of C licence holders could not be expected until at least the appointed day, when practically all other forms of transport would be controlled by the commission, and probably not until 1951 when the overall charges scheme would have been worked out.

It was interesting to compare the method adopted in France for co-ordinating charges for road and rail services. A decree published on Nov. 15 laid down that the railways would no longer run road passenger services and that rates for road services would be fixed by the minister of transport. Transporters would then be required to fix their charges at between 10% over and 20% under the basic rate. Basic rates would also be set for the transport of goods, and road transporters would only be able to compete with the main-line railways by authorization of the latter. The railways were to have far greater freedom in fixing detailed freight charges and would thus be able to co-ordinate their charges with those of the road transporters and compete with them for traffic. (X.)

United States. The production of new buses in the United States during 1949 was less than half of that in 1948 when 11,143 buses were put into service on city and intercity bus routes. Available information indicated that 4,650 motor buses and 650 trolley buses were produced in 1949 for bus companies that were operating over regular routes.

The motor industry's production in the United States in 1949 totalled 6,255,401 vehicles. Included in this were 5,119,911 passenger cars and 1,135,490 lorries and buses. The industry's previous record was in 1929 when 5,358,420 cars and lorries were produced. At the end of 1949 it was estimated that nearly 3,000,000 more passenger cars and lorries had been registered in the United States than in 1948.

The transport industry as a whole in 1949 was estimated to have carried 19,000 million passengers, 46% more than the 1936-40 average. Although this figure was 11% lower than that for 1948, it represented a weekday average of about 63 million rides on the nation's street cars, trolley buses, buses and underground systems. Fare increases kept the industry's operating revenue at $1,490 million, or slightly above that of 1948. Operating expenses, including depreciation but not taxes, decreased in 1949 by approximately 1·5% to $1,324 million. When compared with the previous year, according to these preliminary figures, net revenue was approximately $166 million, or 14·52% more than in 1948. Despite poor net earnings, transport companies had purchased 3,000 surface and subway coaches, 3,500 trolley buses and 37,000 motor buses, or nearly 44,000 new vehicles in the years 1944-49. Estimates placed the number of surface trolley coaches in use during 1949 at 16,100, a decrease of about 41% since 1944; and buses at 59,000, an increase of 22% during the same period. The total number of passenger carrying vehicles owned by the transport industry was estimated at slightly more than 90,000, approximately the same number as in 1948. However, the vehicles purchased in later years generally had greater seating capacity and the actual number of seats available for passengers had increased.

Approximately 97,600 buses were used daily during the school year of 1949 to transport 5,720,000 children to and from 45,256 public schools, largely in the rural areas. The routes served totalled 2,079,000 mi., and the actual distance covered by the buses was about 736 million bus mi., at an estimated cost of about $177·5 million.

In bus and lorry traffic the trend continued toward the use of diesels. The number of diesel lorries in service increased from about 7,600 in 1944 to about 12,000 in 1948. The conversion of buses to diesel engines was more rapid, over 70% of the new buses delivered to companies during two months of 1949 being diesel powered. It was estimated that in 1949 almost 40% of the total bus production for transport in city and intercity services was diesel powered. A 50-passenger city type bus was developed for ultimate use on the municipally-owned routes in New York city; it had staggered seats, wide and easy-moving windows, fluorescent lighting, double width exit and entrance doors and improved springing. (C. W. S.)

MOZAMBIQUE: *see* PORTUGUESE COLONIAL EMPIRE.

MUNICIPAL GOVERNMENT: *see* LOCAL GOVERNMENT.

MUNITIONS OF WAR. U.S. Army. Some of the developments in munitions and related fields during 1949 are briefly described below.

Armour. Specially fabricated plastic armour was successfully tested and stopped a ·45-calibre bullet.

Battery. The army signal corps perfected a 24-v. electric battery that would start an engine at 65°F. A dry-cell battery using magnesium instead of zinc was also made. It had twice the capacity of the conventional type and required no special machinery for its manufacture.

Boat. A new assault craft for the use of infantry in crossing rivers was made of Fiberglas spun to one-thirtieth of the thickness of a human hair. This was woven into cloth and impregnated with tough plastic. A boat so constructed weighed less than 300 lb., was powered by a 33-h.p. engine and could carry 15 men.

De-activator. The Ordnance department worked out a process for safely removing fuses and boosters from high explosive bombs and projectiles. A television camera transmitted an image of the work being done to an operator who manipulated control tools from a bombproof shelter.

Engines. Continental Motors corporation developed an

air-cooled engine for military vehicles. It ranged from 125 to 1,040 h.p.

Gases. The Chemical Warfare service was responsible for testing and developing a new series of gases more deadly than lewisite or mustard gas. This new gas used Tabun, first of the G series, as a base. This series was also known as " green ring three " and included the deadly nerve gases, sometimes referred to as psychological gases since they caused irresponsible action or behaviour among their victims. Small quantities of these new gases, inhaled or brought into contact with the skin, produced death.

Laboratory. The Quartermaster corps received from a civilian manufacturer a highly developed and complete mobile laboratory for testing petroleum fuels and lubricants. It was completely self-contained and independent of other sources for electrical power, heat control, etc. It could maintain any critical range of temperature necessary for testing operations and, in a test at Wright field, Ohio, maintained an inside temperature 140° higher than the temperature outside. In it could be tested all grades of petrol, fuel oils, lubricating oils and greases.

Motors. Two giant electric motors, each developing 25,000 h.p. and capable of producing a 1,500 m.p.h. gale, were built at Moffett air force base, California, to test full-scale aircraft at supersonic speeds.

Petrol. Congealed petrol was developed for practical use. It could be stored in open bins and shipped in ordinary freight cars like coal. It did not explode nor did it ignite easily.

Rifles. The Firestone Tyre and Rubber company, Akron, Ohio, began the mass production of two recoilless rifles which would give the infantry soldier striking power equivalent to field artillery. One was a 57-mm. shoulder weapon while the other was a 75-mm. rifle. The latter was fired from a standard machine-gun tripod and hurled a 14-lb. high explosive shell more than four miles.

Rocket Launchers. Several types of rocket launchers, wheeled and tank-mounted, were completed. They consisted generally of a large number of tubes, mounted in honeycomb fashion, lightweight, easily portable and capable of rapid fire with high explosive shells.

Rockets. In firing tests with high-reaching rockets much valuable material was heretofore lost. This condition was remedied by redesigning the war head of the rocket. At a distance of 100 mi. from the earth, the 3,600-lb. war head of the V-2 rocket was detached automatically from the rocket. This war head contained the instruments for upper-air research. When detached, the war head trailed a 30-ft. diameter pilot parachute. When this dropped below 50-mi. altitude, the pilot parachute opened fully and dragged open a 100-ft. diameter parachute which brought the expensive instruments safely to the ground.

Steel. The Lebanon Steel foundry produced an alloy steel which functioned at temperatures as low as —423°F. It was an austenitic cast ferrous alloy containing 19·5% chromium and 9% nickel, among other metals. It could be used effectively in production of castings for pressure equipment, in storage facilities for liquid oxygen used as a propellent in rocket guns.

Tanks. Greater power and manoeuverability was secured in the " General Patton " tank by use of an improved 810-h p. engine, by the perfection of a new, rugged transmission system, and by the adoption of a single " wobble-stick " control.

Teletypewriter. An improved, waterproof teletypewriter was made which could be carried by a parachutist. It weighed 45 lb., just one-fourth the weight of the former types, and transmitted and received messages 66% faster than previous existing types. (R. S. T.)

U.S. Navy. The development of new U.S. navy weapons of offence and defence, capable of dealing effectively with anticipated future war conditions, was pursued vigorously during 1949 to keep pace with continuing rapid advances in the fields of high-speed aircraft, submarines and guided missiles. While much effort was directed towards developing radically new weapons, progress continued in providing improved interim weapons to maintain the fleet's high state of readiness.

Anti-submarine weapons continued to receive major attention. The recently commissioned U.S.S. " Robert A. Owens " and U.S.S. " Carpenter," prototype navy hunter-killer destroyers carrying some of the latest armament and detection devices, were to be tested early in 1950 against new high-speed schnorkel submarines.

Progress in aviation ordnance was highly satisfactory. New weapons and fire-control systems were developed to cope with the problems of high-speed flight.

Three new cruisers of the " Des Moines " class were the first to be equipped with the navy's new completely automatic rapid-fire eight-inch dual-purpose guns, capable of firing at battle ranges substantially faster than previous guns of this or larger calibres.

The fullest utilization of new weapons required advanced designs of computing machines and fire-control systems, emphasizing the automatic features of operation and the increased speeds of probable targets. Probably the most noteworthy progress was made on guided missiles, where active research and development were being conducted on missiles in the surface-to-air, air-to-surface, air-to-subsurface and air-to-air categories. The U.S.S. " Norton Sound " was placed in operation to facilitate the testing of guided missiles at sea. This floating laboratory was used during the year for upper atmosphere research firings with the Aerobee missile. In the late spring of 1949 off Point Mugu, California, such control was achieved over 3,000-m.p.h. surface-to-air rockets that were fired at a helium balloon labelled " friend " and then deflected to score a direct hit on a balloon labelled " foe."

Two new ordnance wind tunnels came into operation to accelerate work on guided missiles and other new weapons. One, at the Naval Ordnance laboratory, White Oak, Maryland, recently achieved Mach number 5·18 (or 5·18 times the speed of sound)—the highest speed ever attained in a tunnel of this size. The second, at the Massachusetts Institute of Technology, Cambridge, Massachusetts, would permit the simultaneous training of technical students in advanced wind tunnel operation and the competent refinement of development designs and search for new aerodynamic knowledge. (A. G. Ne.)

Air. Evidence of the urgency and extent of the U.S. guided-missiles programme was shown in the fact that about $100 million of the 1950-51 research and development budget was allocated to revolutionary weapons of this type. This amounted to 20% of the $500 million budget approved by the Research and Development board.

Some details of the U.S. air force's first postwar air-to-air guided missile were released late in 1949. It was the Ryan Firebird, designated XAAM-A-1 (experimental, air-to-air missile, air force, first model). When this project was first announced in 1947 it was stated that it would result in one of the most compact weapons of its type yet designed, with a " built-in brain capable of doing its own thinking " once it was launched. It was revealed in 1949 that this intelligence consisted of a complicated radar navigational and electronic system. Launched from a mother jet fighter plane, the Firebird was capable of heading off and destroying its enemy objective in a matter of seconds, even though the objective might be engaged in violent evasive action. In flight tests it showed all the speed first generated by the parent fighter plus

the added power of its own " booster " rocket and finally its flight rockets. A direct hit was not necessary because an improved type of proximity fuse detonated its heavy explosive charge when the missile came within lethal range of the enemy.

A further development of an air defence missile was announced which did away with the mother plane. This was a ground-to-air pilotless aircraft which was in advanced development in the U.S. It could climb much faster than a piloted aircraft and when it reached the point where it could see the enemy with its own radar eye it cut itself off from ground control and started its electronic brain working. This solved a complicated mathematical equation taking into account the relative speeds of the enemy bomber and missile and then enabling the missile to blow itself and bomber at the point of interception.

After two-and-a-half years of constructional work, the first long-range ground-to-ground rocket missiles were fired from the testing ground of the British Commonwealth at Woomera, New South Wales, in the summer of 1949. Between 2,000 and 3,000 personnel were employed at this station during the year. Supersonic missiles were fired on four ranges, the main range covering a course of 1,200 mi. to the western Australian coast and Indian ocean, with an extra 1,500 mi. to Christmas island.

Apart from the guided missiles field, a revolutionary tactical air development was the helicopter assault operation, successfully tested by the U.S. Marine corps, superseding the need for landing craft to creep ashore under heavy fire. (*See* also AIR FORCES OF THE WORLD; ARMIES OF THE WORLD; METALLURGY; NAVIES OF THE WORLD.) (N. F. S.)

MUNNINGS, SIR ALFRED JAMES, British artist (b. Oct. 8, 1878), was educated at Framlingham college, at Norwich school of art and at Paris. He first exhibited at the Royal Academy in 1898, was elected an associate in 1919, an academician in 1925 and on March 15, 1944, was elected president of the academy in succession to Sir Edwin Lutyens. His fresh, smoothly glittering paintings of thoroughbred horses in settings of open, downland landscape won him renown; and his works were purchased by the cities of Aberdeen and Birmingham and by the Chantrey bequest. During World War I he was attached to the Canadian cavalry brigade in France and painted 45 war pictures for the Canadian government. He has also modelled equestrian statues. Early in 1949, he announced his intention of retiring from the presidency of the academy, and on Dec. 8 Sir Gerald Kelly was elected to succeed him. In a speech at the Royal Academy banquet at the opening of the 1949 summer exhibition he severely criticized modern art and described some modern painters as " young jugglers." On May 28 he opened a memorial exhibition of painting by Stanhope Forbes at Newlyn, Cornwall, and again criticized works by Henri Matisse and others. Describing Forbes' " The Health of the Bride " as his favourite picture he complained that although purchased for the Tate gallery under the Chantrey bequest it was not on public view. (*See* also ART EXHIBITIONS.)



One of the galleries in Hutchinson House, Stratford place, London, which was opened in Feb. 1949 as the National Gallery of British Sports and Pastimes.

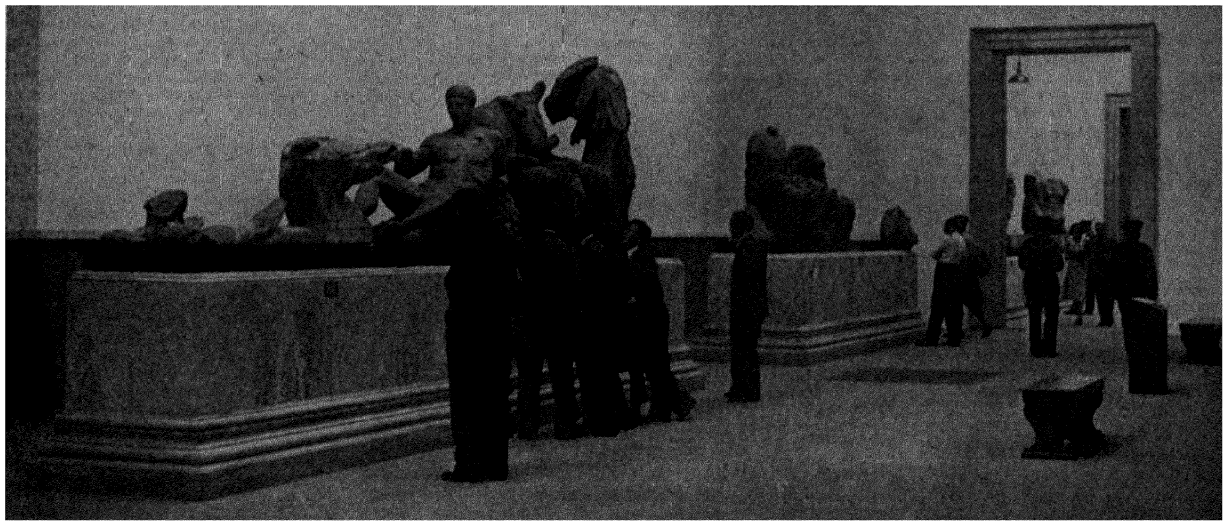
MUSEUMS. The year 1949 showed a steady improvement in the museums and art galleries of most countries of the Commonwealth and British colonies and in those of Europe.

In Great Britain the government, in addition to giving general approval to the Report of the Standing Commission on National Museums and Galleries issued in Oct. 1948, also considered assisting provincial museums; and discussions took place between the Ministry of Education, the Museums association and representatives of the local authorities. But towards the end of 1949 the economy drive tended to slow down the approach.

In London galleries were re-opened at the British museum and the Victoria and Albert museum. At the former the Elgin marbles were on view again for the first time after 1940. Preparations were continued for accommodating the London museum in its new quarters in Kensington palace. At the Science museum work was about to begin on the construction of a large central block on the roof of which a Planetarium would be erected; it was hoped to finish this in 1954. The complete restoration of the Tate gallery was marked by its re-opening in Feb. 1949. New galleries were opened at the Imperial War museum and at the Public Record office.

At the Natural History museum, Birmingham, the gallery containing the Chase collection of British birds was re-opened. Near Bristol, the Blaise Castle House Folk museum, a branch of the Bristol City museum, was opened in May; and in the same month a new art gallery was opened in Berwick-

Osmania University Library,
HYDERABAD (DECCAN).



A view of the collection of Elgin Marbles on Sept. 5, 1949, when they were on view for the first time after World War II.

on-Tweed. In July there were formal openings of the Cecil Higgins museum at Bedford and the Jane Austen museum at Chawton, Hampshire. There were also considerable developments at Leicester and Southampton. The first museum in Great Britain and one of the very few in Europe to be devoted entirely to eastern art was opened at Oxford as a branch of the Ashmolean museum under the charge of Dr. William Cohn.

In Scotland a few museums enjoyed the first financial year free of the ancient threepenny rate limitation, Paisley being a notable example. In Edinburgh the Scottish National Portrait gallery and the Scottish United Services museum were re-opened, the Royal Scottish museum was rehabilitated after the disorganization caused by World War II and the Beasts of Prey hall was re-opened in March. Edinburgh also recorded considerable progress on the educational side of museum activities. At Glasgow an open air museum of sculpture was formed at the new Burrell museum.

In the dominions there was steady progress though without any particularly spectacular developments. In the Union of South Africa the proposed commission to consider the further development of the research function of museums did not eventuate. In the British colonies one of the most interesting developments was the decision of the government of Nigeria to appoint a museum technical instructor to train Africans as museum technical assistants.

In France three important museums in the Palais de Chaillot, the Musée de l'Homme, Musée de la Marine and the Musée des Monuments Français were re-opened to the public after having been closed in April 1948 because of the occupation of that building by the United Nations general assembly. The Musée de Cluny, Paris, and the Musée Céramique de Sèvres were also re-opened. In the provinces there were re-openings at Marseilles, Autun, Le Mans and Dieppe; new museums were opened at Toulouse, Beaune and elsewhere and considerable improvements were made at Besançon, Compiègne, Dijon, Nancy, Poitiers and Rheims. All the state museums in Belgium and the museums of Brussels were open once again to the public; the Musée des Beaux Arts of Liége, badly damaged in 1944, was being completely modernized. There was a move on foot to extend state control to provincial museums. In Holland the Rijksmuseum was being systematically re-organized and the picture galleries were now open to the public. At the Stedelijkmuseum 70 exhibitions of modern art had already been held since the liberation in 1945. In Poland, 1948 saw the publication of *Muzealnictwo* edited by Stefan Komarnicki and Tadeusz Dobrowolski, which was a combined manual for curators, a history of the Polish museum movement and a handlist of Polish museums. The Museum of Archæology, Warsaw, which was looted by the Germans in 1939 and in consequence closed throughout World War II, had now recovered about half of its collections and most of its furnishings; it was installed in the beautiful Lubomirski palace towards the end of 1949. There was little news of improvements in museums in Germany; but the Deutsches Museum resumed publication of its technical handbooks and the Goethe Haus at Frankfurt was restored and re-opened. In Austria, Greece, Italy and Norway there was a steady but not spectacular improvement in the museum situation but, as in Germany, there could be little hope yet of permanent reconstruction or building in most of these countries. Sweden had a series of outstanding museums and, considering its limited population and resources, was probably the best country in Europe for museum buildings and display techniques. Its methods were being studied and copied throughout the world.

The International Council of Museums (I.C.O.M.) decided to set up a committee to consider encouraging the various countries who were members of U.N.E.S.C.O. to publish *Directories of Museums*; only seven countries had so far produced such *Directories* after World War II. I.C.O.M. also published André Leveillé's *Les Musées scientifiques, techniques, de la santé, planétaria et la popularisation de la science* (Paris, 1948). Late in 1949 U.N.E.S.C.O. published an 18-page pamphlet entitled *Art Museums in Need* which reviewed the war damage to museums in Europe and Asia and appealed for funds to assist in their reconstruction. A book which had a mixed reception was A. S. Wittlin's *The Museum: its History and its Tasks in Education* (London, 1949). *Icom News* carried special articles on the museum situation in Tunisia and Morocco which showed that considerable progress had been made in these areas.

The Museums division of U.N.E.S.C.O. continued its activities, its new director being J. K. van der Haagen. Its well produced publication *Museum* enjoyed a world-wide reputation. (S. F. M.)

United States. Many notable works of art entered the public collections during 1949. The National gallery in Washington, D.C., acquired a large Murillo, " The Return

of the Prodigal Son," given by the Avalon foundation through the generosity of Mrs. Ailsa Mellon Bruce.

New York's Metropolitan museum received as a gift from John D. Rockefeller a group of five tapestry panels from the famous set of " Nine Heroes " woven in the 15th century, presumably for the Duke of Berry. It also acquired a rare early Italian painting, " St. Sebastian " (*c.* 1445) by Andrea del Castagno (1390-1457). The Museum of Fine Arts, Boston, Massachusetts, purchased a great Titian, " St. Catherine of Alexandria," painted about 1568. Two notable Tintorettos entered other New England museums—the Currier gallery at Manchester, New Hampshire, having purchased the Pietro Capello, " Venetian Senator " (1585-90), while the " Portrait of a Courtesan," dated 1574, went to the Worcester museum, Worcester, Massachusetts.

The Detroit Institute of Arts acquired " St. Jerome in the Wilderness " by the great Spanish baroque painter Ribera (1588-1652); the portrait of Hendrick Swalmius by Frans Hals (1580-1666); and Baron Gros's (1771-1835) sketch for " Murat Winning the Battle of Aboukir." A small but select collection of near eastern and oriental art was being assembled at the Cincinnati Art museum by the gift of approximately $150,000 from the heirs of Charles F. Williams.

Two important American 18th-century portraits were purchased by the City Art museum of St. Louis. These were Ralph Earle's (1751-1801) " Major Moses Seymour " (1789) and " Mrs. Moses Seymour and Son." The Portland (Oregon) Art museum purchased with the aid of several donors, the outstanding collection of northwest coast American Indian Art assembled by Axel Rasmussen, a former schoolteacher and superintendent of schools in Skagway, Alaska. This collection consists of some 5,000 objects and includes masks, potlatch boats, house posts, totem poles, etc.

The William Rockhill Nelson Gallery of Art in Kansas City held a gala celebration of its 15th anniversary and put on view a group of new acquisitions. Outstanding among these was a statue of St. Barbara (*c.* 1570) by the French sculptor Germain Pilon; four Roman portrait busts, including the emperors Lucius Verus and Caracalla; and a stone guardian lion, Chinese, of the T'ang dynasty.

Perhaps the greatest collection to go to a museum during the year was received by the Baltimore museum as a bequest of Etta Cone. This collection, valued at $400,000, contained 350 paintings and 50 pieces of sculpture and included 10 Picassos, 39 paintings and 10 bronzes by Matisse (most important single group in any collection), top quality paintings by Gauguin, Van Gogh, Cézanne, Renoir and Corot. Miss Cone and her sister, Claribel Cone, were pioneer collectors of modern art. (*See* also ART EXHIBITIONS; ART SALES.) (F. A. Sw.)

MUSIC. From the point of musical activity, 1949 was the most productive of the postwar years. In the realm of opera it was England which, for the second successive year, took the European lead in first performances and important revivals. Arthur Benjamin's *Prima Donna* was presented for the first time in February, although the work was written in 1933; Inglis Gundry's *Avon* followed in April; in June, at the Aldeburgh festival, Benjamin Britten's opera for children *Let's make an opera* had its first performance; and in September, the new Arthur Bliss–J. B. Priestley opera *The Olympians* was presented at Covent Garden. Of these, only the third and fourth seemed likely to survive. Britten's work was of a specialized nature, written for a specific educational purpose within the bounds of which it was highly successful; *The Olympians*, though hardly the unqualified masterpiece that advance publicity had suggested, was a worthy addition to the short history of British opera and seemed likely to retain a place in the repertory of the Royal Opera house.

The revivals included a concert performance of Alban Berg's *Wozzeck* given by a distinguished group of soloists with the B.B.C. Symphony orchestra conducted by Sir Adrian Boult; the performance was of exceptional quality, and renewed acquaintance with the work confirmed its important position in the history of contemporary music. At Covent Garden, two complete cycles of Richard Wagner's *Der Ring des Nibelungen* were presented for the first time after the end of World War II; Kirsten Flagstad, Set Svanholm and Hans Hotter were the principal singers in an international cast, and both cycles were conducted by Karl Rankl. Another interesting revival took place at the People's palace, where the London Philharmonic orchestra sponsored a series of performances of Rutland Boughton's *The Immortal Hour*, conducted by the composer; although largely devoid of originality, the work was seen to possess a certain elusive charm that ensured a popular reception. The opera from which it was in certain respects derived—Claude Debussy's *Pelléas et Mélisande*—was presented by the Paris Opéra-Comique at Covent Garden in July.

In September, the death of Richard Strauss deprived the musical world of one of its most respected composers; it also severed the last link with the creative musical world of the late 19th century. As a composer Strauss remained active to the last, although he was likely to be best remembered by the works of his early manhood. Memorial concerts were held throughout Europe; in London, Sir Thomas Beecham conducted a programme which concluded with a superb performance of *Don Quixote* English musical scholarship lost two notable figures during the year; the death was announced of Dr. Ernest Walker, essayist, composer and teacher, and of Sir Stanley Marchant, the respected principal of the Royal Academy of Music. In October, the musical world mourned the death of the young French violinist Ginette Neveu, killed in an air disaster (*see* OBITUARIES); her artistry and musicianship would long be remembered.

Notable first performances during the year included Edmund Rubbra's *Fifth Symphony*, a work of considerable interest though lacking in some degree the power and originality of its predecessors. At the Edinburgh festival, Ernest Bloch conducted the first performance of his new *Concerto Symphonique* for piano and orchestra; the work had a mixed reception from the critics, most of whom felt that it was below the standard set by the composer in his *Second Quartet* and *Piano Quintet* Later in the season, Bloch conducted a concert of his own music in London, including the beautiful *Sacred Service* in which Marko Rothmuller sang the solo part. At the festival of British music held in Cheltenham, the first public performance of Richard Arnell's *Fourth Symphony* was given; the composer, although British by nationality, had spent much of his creative life in America and consequently his music had not yet become established in Europe. First performances at the autumn Promenade concerts included Alan Rawsthorne's *Concerto for String Orchestra*, William Alwyn's *Oboe Concerto*, and a *Duet Concertino for clarinet, bassoon, strings and harp* by Richard Strauss—the latter work revealing an altogether charming facility within unpretentious bounds.

Most of the European festivals during 1949 were successful, though few new works of importance were introduced. The International Society for Contemporary Music held its meeting at Palermo, Sicily; most of the critics seemed to prefer the surroundings to the music, although Matyas Seiber's *Fantasia* for violin and strings was generally praised, as also were string quartets by Armin Schibler of Switzerland and Willen Pijper of Holland. In London, a festival of Edward Elgar's music was held in May and June, incorporating performances of all his major works; Jascha Heifetz gave an admirably lucid interpretation of the *Violin Concerto*. The

festival at Salzburg followed tradition and restricted itself mainly to high class performances of established classical works; similarly at Edinburgh the focus was mainly on the works of the past, although L'Orchestre de la Suisse Romande under Ernest Ansermet gave a performance of Frank Martin's interesting *Symphonie Concertante* for piano, cembalo, harp and string orchestra. The Swiss players were highly praised, and the orchestra was in some respects superior to the Berlin Philharmonic which appeared under the direction of Sir John Barbirolli (*q.v.*) and Eugene Goosens; the latter conducted a fine performance of Gustav Mahler's *First Symphony*. In addition to those already mentioned, festivals were also held at Aldeburgh (English Opera group), Amsterdam, Bath and Hereford (The Three Choirs).

The Philadelphia orchestra, under its chief conductor Eugene Ormandy, paid a short visit to England and impressed audiences with a remarkable display of orchestral virtuosity; the Vienna Philharmonic also gave a number of excellent concerts in London. On the occasion of Sir Thomas Beecham's 70th birthday a special concert was given in London by the Royal Philharmonic orchestra, which also appeared with Sir Thomas at the Edinburgh festival. The interchange of artists on an international basis continued to play an important part in European musical life; in Paris, the German pianist Wilhelm Kempff rapidly re-established himself among the great interpreters of Bach, Mozart and Beethoven; in England, Eduard van Beinum (conductor of the Amsterdam Concertgebouw orchestra) took over the London Philharmonic for a period of six months, during which time a considerable improvement in orchestral technique was noticed. Later in the year he was succeeded by Nicolai Malko.

Reports of increasing musical activity in the dominions and commonwealth were received during 1949. In addition to a wealth of native talent, Australian musical life enjoyed the presence of several well known European artists, including Rafael Kubelik and Aleksander Helmann.

In Germany, the return to a stable currency brought about a strenuous revival in musical activity, though there remained little indication of new creative thought. Opera productions in the main towns and cities reached a high standard (particularly in Munich, under the musical direction of Georg Solti) and the programmes for the autumn season were ambitious without showing much deviation from the paths of convention; among the few contemporary composers active in Germany, Boris Blacher emerged as a figure of potential importance.

Early in the year it was reported from Vienna that the death mask of Wolfgang Mozart had been discovered by Professor Willy Kauer. Preliminary evidence seemed to suggest that this was the death mask taken by Count Deym on Dec. 5, 1791; the Austrian Ministry of Education appointed a commission to investigate the discovery and to arrange for the publication of details if or when authenticity could be determined.

In the philosophy of music, the dominating problem remained that of the relation of the composer to his audience, typified on the one side by the "free" composers in the western European states and on the other by those composers working under state patronage in the eastern and certain mid-European countries. In the technical sphere, the dispute continued between composers writing within the twelve-tone system and those seeking to write originally within the established tonal system. To a certain degree these problems appeared to be inter-related, and might have been partly responsible for the somewhat precarious creative state evident in European music during the year. (J. Cw.)

United States. During 1949 several orchestras extended their seasons, for example, the Cleveland orchestra, the Minneapolis Symphony, the Nashville Symphony and the Tulsa Philharmonic. Serge Koussevitzky retired from the conductorship of the Boston Symphony, and was succeeded by Charles Munch. The Chicago Symphony orchestra also acquired a new conductor—the Czechoslovakian, Rafael Kubelik. Antal Dorati and Walter Hendl began successful seasons with the Minneapolis Symphony and the Dallas Symphony orchestra respectively. Conductor Karl Kreuger resigned from Detroit Symphony orchestra. Hans Kindler resigned from the National Symphony orchestra and was succeeded by Howard Mitchell. Although the pavilion at Ravinia park, near Chicago, was destroyed by fire, the summer programme was successfully carried on in a huge tent which was once a B-29 hangar. A concluding series of chamber music concerts at Ravinia brought Jascha Heifetz, Artur Rubinstein and Gregor Piatigorski together for the first time in trio work.

A summary of the new works performed in and about New York city indicated that 1949 was an encouraging year for music. There were over 500 performances, including 200 premieres. (F. B. C.)

Popular Music. The importance of the American operetta style, and the superiority of stage songs to the routine output of conventional writers, were established in 1949. Two musical shows, far in advance of all their predecessors in this field, provided proof of this triumph of good popular music. They were *South Pacific*, adapted by Richard Rodgers, Oscar Hammerstein II and Joshua Logan from the prize-winning *Tales* of James A. Michener, and *Kiss Me, Kate*, for which Cole Porter wrote both words and music to a book by the Spewacks based on Shakespeare's *Taming of the Shrew*. Later came the Berlin-Sherwood-Hart *Miss Liberty*, which suffered only by comparison with its rivals.

"Some Enchanted Evening," sung by Ezio Pinza in *South Pacific*, was the most popular song of the year, according to the Lucky Strike Hit Parade, which presented it for more than 20 successive weeks, heading the programme 13 times. Actually there were better songs than this in the Rodgers-Hammerstein score; three of them, "A Wonderful Guy," "Bali Ha'i" and "Younger Than Springtime," received adequate recognition from radio's high tribunal.

Unquestionably *Kiss Me, Kate* contained the best songs and music ever written by Cole Porter. "So in Love" appeared a dozen times on the Hit Parade and was definitely the most popular number in the show, although such songs as "The Life I Late Have Led," "Always True to You in My Fashion" and "Too Darn Hot" were also popular.

Miss Liberty, which pleased the public more than the critics, had two songs in the Hit Parade, "Just One Way to Say I Love You" and "Let's Take an Old-fashioned Walk"; but there were other numbers fully up to the Irving Berlin standard, including the plaintive "Homework."

The top song of 1948, "Buttons and Bows" held its own well into 1949, as did the two Loesser hits, "My Darling, My Darling" and "On a Slow Boat to China."

Most of the popular songs were definitely reminiscent of earlier music, particularly "Far Away Places" and "Cruising Down the River." "Powder Your Face with Sunshine" had some individuality, but there was nothing particularly distinctive about "A Little Bird Told Me," "Again," "A Room Full of Roses," "You're Breaking My Heart," "That Lucky Old Sun," "Don't Cry Joe" and "I Can Dream, Can't I?," all of which reached the top of the Lucky Strike list more than once. The humorous "Baby, It's Cold Outside" was handicapped by radio censorship. Late in the year a line by Stephen Foster suggested the currently successful "Dear Hearts and Gentle People," and Christmas brought the year's real novelty in "Rudolph, the Red-Nosed Reindeer." (S. Sp.)

NARCOTICS. The Commission on Narcotic Drugs of the United Nations, at its fourth session in May 1949, made a number of decisions and recommendations with a view to suppressing illicit traffic and tightening controls over the production of opium and the distribution of all dangerous narcotic drugs. Progress was made toward the drafting of a new single convention to replace and simplify existing conventions and agreements. The commission considered the creation of only two control bodies—a policy-making body and an administrative body—with a single secretariat for these two bodies. Also proposed were an international purchasing and selling agency for distributing opium and an international clearing house for reviewing import permits covering narcotic drugs before the issuing of export permits.

A sub-committee composed of representatives of the principal opium-producing countries—India, Persia, Turkey, the U.S.S.R. and Yugoslavia—was appointed to consider the desirability of convening a conference to conclude an interim agreement for limiting the production of raw opium to medical and scientific needs. The sub-committee agreed that an *ad hoc* committee of the Commission on Narcotic Drugs composed of the representatives of these principal opium-producing countries should meet in Turkey.

The Commission on Narcotic Drugs having drawn the attention of the Economic and Social council to the large volume of illicit traffic in narcotic drugs throughout the world, the council adopted a resolution designed to suppress such traffic. It recommended that all states should increase their efforts to suppress the illicit production of all raw materials from which narcotic drugs were prepared and the illicit manufacture of these drugs, as well as of those produced synthetically. It further recommended that stringent measures of control should be applied to the distribution and transportation of narcotic drugs and that special attention should be paid to the smuggling of drugs in aircraft. Finally, steps should be taken to strengthen measures for apprehending traffickers and to subject them to severe penalties.

The Commission of Inquiry on the Coca Leaf started work in Peru in September. It was appointed to study the economic and social effects of the chewing of the coca leaf and to recommend measures for limiting the production of the coca leaf to medical and other legitimate requirements.

An important accomplishment of 1948 in the international control of narcotic drugs had been the approval by the general assembly of the U.N. of a protocol which brought under international control manufactured drugs outside the scope of the convention of 1931. This new protocol, unanimously approved by the general assembly on Oct. 8, 1948, and thereafter opened for signature, brought all synthetic narcotic drugs under international control. If the World Health organization found that a drug was capable of producing addiction or of conversion into a product capable of producing addiction, it would notify the secretary general of the U.N., who would immediately inform all members of U.N., non-member states who were parties to the protocol, the Commission on Narcotic Drugs and the Permanent Central Opium board. On receipt of this information the parties to the protocol would apply to the drug the appropriate control laid down by the 1931 convention.

Trends in the illicit drug traffic in the United States indicated that some of the old sources of supply, such as Turkey, France and Italy, were active as in prewar years. In addition, it appeared that India and Hong Kong were bases for the smuggling of narcotic drugs. Raw opium seizures increased in the Atlantic coast area. Turkey and other near eastern countries served as sources of supply of raw opium and hashish. Indian raw opium seizures were heavy in the Atlantic coast area, being second in quantity to those of Turkish opium. Raw opium seizures identified definitely as originating from Persia were fewer than Turkish and Indian opium seizures, but it was believed that a number of unidentified seizures were of Persian origin.

There was a disturbing increase in the quantity of cocaine seized. Reliable information indicated that cocaine for smuggling into the United States was available in large quantities in Peru, Chile and Bolivia. Seizures of marijuana also increased.

Accidental deaths and suicides directly attributable to the effect of barbituric acid drugs continued to increase in the United States. The lack of adequate control prompted the introduction in congress of two bills to bring these drugs under federal narcotic laws. The administration opposed these measures on the grounds that there was no smuggling and no interstate illicit traffic and therefore the problem should be controlled by the states. (H. J. A.)

Measures controlling the consumption in Great Britain of a number of dangerous drugs were strengthened by regulations which came into force on Jan. 1, 1949. Two of the new requirements were that persons authorized to be in possession of dangerous drugs were compelled to take proper care of them, and accredited vendors had to keep them under lock and key. The regulations restricted the authority to dispense dangerous drugs and imposed on pharmacists the responsibility for satisfying themselves of the genuineness of all prescriptions for which they dispensed a dangerous drug. Drug addiction did not present a serious problem in Great Britain, and statistics showed that addicts numbered only 383. The principal drugs used were morphine and heroin. Few used cocaine and the number was decreasing. The domestic manufacture of drugs was controlled by a system of licensing and Home Office inspection and, according to a government report to the U.N., addicts or would-be traffickers had little chance of obtaining drugs from these sources.

It was announced on March 3 that, by arrangement with the Pharmaceutical society, the B.B.C. would discontinue broadcasting messages concerning lost drugs, except when real danger to life existed or where drugs and poison were known to have been purchased in mistake for harmless medicines.

Abnormal traffic in drugs in the British and U.S. zones of Germany was the subject of a report submitted by the occupation authorities on May 19 to the U.N. Commission on Narcotic Drugs. The traffic was aggravated by groups of people who bartered drugs for coffee and cigarettes provided as amenities in camps for displaced persons. The British representative reported that most narcotics seized in the black market came from former *Wehrmacht* medical depots and supply trains looted at the end of World War II. The report stated that there was no proof of the illicit import of such drugs.

BIBLIOGRAPHY. *Report of the United Nations Commission on Narcotic Drugs*, to the Economic and Social Council at the fourth session, held at Lake Success, New York, May 16 to June 3, 1949 (Document no E/1361, June 7, 1949), *Traffic in Opium and Other Dangerous Drugs for the year ended December 31, 1948* (U S Treasury Department Bureau of Narcotics, 1949).

NATIONAL HEALTH SERVICE. 1949 was the first full year during which the National Health Service act, 1946, operated. Ninety-five per cent of the population had registered with general medical practitioners under the scheme. Although a large proportion of doctors in general practice accepted service under the scheme, patients were sometimes delayed in obtaining treatment owing to the shortage of doctors; and there were complaints of overwork in the profession. There was evidence that some people were going to their doctors too readily and that the provision of free medicine was being abused by a minority of the patients. It was decided, therefore, that a charge of one shilling should be made for each prescription. There was some criticism of

the service being available to foreigners. It was therefore decided that the provision of artificial limbs, dentures and other appliances or expensive treatment should not be available to persons coming specially to Great Britain for the purpose. Dental treatment was even more difficult to obtain than medical treatment for some years because there had been a great shortage of dentists in Great Britain. Under the new scheme the earnings of some dentists were considered to be excessive and revision of their fees was under consideration. In the school medical service dentists continued to be paid by salary and there was a tendency for this service to suffer since private practice became more attractive. The ophthalmic service was also carried on under some difficulty, particularly in the supply of spectacles of which five million were provided in the first year.

When the new scheme was introduced the British Medical association, acting for the profession, feared the possibility of the establishment of a state medical service. The National Health Service (Amendment) act, 1949, was accordingly passed to give a statutory guarantee that a whole-time salaried service for general medical practitioners would not be introduced without special legislation. This act also met objections which had been raised to the operation of the main act in regard to partnership agreements.

The development of the health services received consideration in the dominions and particularly in Canada where, during the year, progress was made with the National Health programme under which some $30 million were to be made available by the dominion government to the provinces for the improvement of health services.

In India consideration was given to the indigenous systems of medicine, known as *Ayurveda*, *Unani*, etc., and to a scheme in connection with the Employees Insurance act.

The Nurses act, 1949, aimed at raising the standard of the profession in order to redress the shortage of nurses which had restricted hospital service during postwar years. The General Nursing council gave a more intimate contact with the training hospitals through the establishment of nurse-training committees. Further it was hoped that the provision in the act for the election of nurses to the General Nursing council would encourage amongst nurses themselves a steadily growing interest in their own profession and in the health service as a whole. (*See* NURSING.)

Owing to financial stringency it was only possible to make a small increase in hospital provision. There was considerable difficulty in obtaining hospital accommodation for the elderly sick. On the other hand, in some hospitals the accommodation for the sick was being used by ambulatory patients. Voluntary organizations (particularly the National Corporation for the Care of Old People and the National Old People's Welfare committee) in association with the medical profession were exploring the possibility of establishing rest homes to which such persons could be transferred. Similar problems were receiving attention in the United States and Canada. Economy of expenditure and restrictions on new building limited progress in the provision of health centres by local health authorities.

The estimated cost of the service for the financial year was £232 million or about 2*s.* 1*d.* a head a week of the whole population. This was considerably greater than had been anticipated when the scheme was introduced but was no doubt due largely to the fact that health needs which were clearly neglected or inadequately provided for were being met more efficiently. There was some criticism of the cost of the administration of the scheme, but the minister of health pointed out that it was not more than between 2½ and 3% of the total expenditure on the national health service. The expenditure was reviewed by a House of Commons select committee which considered that there was need for public recognition that any abuse of the service constituted a grave threat to its maintenance and further expansion. The committee had evidence that there was some difficulty in maintaining professional standards which could be overcome only by the utmost endeavour on the part of all concerned to use the service wisely. In this connection mention should be made of the adoption by the World Medical association of an international code of medical ethics. (Jo. Ms.)

BIBLIOGRAPHY. *National Health Service (Amendment) Act* (H M S O, London, 1949); *Report of General Assembly of the World Medical Association*, British Medical Journal Supplement (London, Oct. 1949).

NATIONAL INCOME. The computation of national income statistics made further considerable headway during 1949. The United Nations Statistical bulletin was able to extend its comparative table, which could now be regarded as fairly representative for both western Europe and the Commonwealth. In Great Britain the White Paper on *National Income and Expenditure of the United Kingdom* contained more detailed estimates for 1948 than for previous years. Other governments, too, inspired by the efforts of U.N. to make information available about the national incomes of its member countries, improved their statistical services in that direction.

Nevertheless, the computation of national income statistics left much to be desired. No uniform method had so far been adopted by the countries which contributed their figures to U.N., so that the various series of figures were not, strictly speaking, comparable. There was also a danger that the lay reader might attribute to these figures a higher degree of accuracy than they could justifiably claim to possess. In this respect the warning contained in the introductory notes of the British White Paper referred to above was well worth bearing in mind.

"It cannot be too strongly emphasized that the estimates in this paper are not based on exact information collected by census enumerators or obtained by scientifically designed sample enquiries. They are, in almost every case, estimates based on incomplete information collected by government departments in a form designed to suit needs other than those of the national income investigator. In some cases the information available is exiguous in the extreme. Little is known about the distribution trades, little about wages and salaries in some other service industries, little about changes in the value of manufacturers' and distributors' inventories and work in progress. In other cases the available information is so scanty that it has been possible to make no direct estimate at all Thus the estimates of personal saving in this paper are all residues obtained by subtracting estimates of expenditure from estimates of income. Even in cases where information is more complete it is available only after considerable delay . . . The figures shown are the best estimates that could be made, but as there had been no body of accumulated experience to draw on in making them it would be surprising if they stood the test of time as well as other estimates in more familiar fields."

This candid admission applies to the national income figures published by other governments probably even more than to the British figures, for the statistical services of most countries were less highly developed than those of Great Britain. It is with this reservation in mind that the table of national incomes between 1937 and 1948 should be studied.

The figures of various countries in the table were not comparable, because each government had its own idea on how to treat various items. Moreover, in some cases the figures were based on the gross value of national products at market prices, in others on the gross value of national

TABLE I.—NATIONAL INCOME

	Australia million £A	Belgium million francs	Canada million dollars	Czechoslovakia 1,000 million korun	Denmark million kroner	Netherlands million guilder	New Zealand million £NZ	Norway million kroner	Sweden million kronor	United Kingdom million £
1937	820	65,270	4,017	58 6	6,094	4,802	—	3,639	—	4,616
1938	814	65,200	3,986	56·7	6,360	4,904	194·1	3,741	11,970	4,640
1939	877	65,200	4,289	38 9*	6,920	5,207	211·4	4,095	—	5,037
1940	949	—	5,255	45·5*	7,441	—	231·9	4,344	—	5,980
1941	1,099	—	6,594	51·5*	8,441	—	254·4	5,339	—	6,941
1942	1,253	—	8,382	57·2*	9,489	—	293·7	5 235	—	7,664
1943	1,309	—	9,093	60·8*	10,754	—	326·9	5,328	17,900	8,171
1944	1,274	—	9,712	61·3*	11,956	—	330	—	18,600	8,310
1945	1,299	—	9,772	—	11,968	—	350	4,462	19,400	8,355
1946	1,358	190,600	9,765	155·4	13,299	9,326	364·9	6,992	21,520	8,111
1947	1,753	214,550	10,989	194·4	14,585	11,388	411·2	8,143	23,340	8,725
1948	1,955	243,900	12,796	213·1	15,776	12,700	419	8,750	25,380	9,675

* Bohemia and Moravia only

products at factor costs. (National income at "factor" costs is, according to the definition of the U.N. statistical bulletin, the aggregate of all incomes earned in the production of goods and services in the course of a year, including net income from abroad. It is the sum of all wages, salaries, rent, dividend, interest, income of enterpreneurs and undistributed profit of corporations before taxation. National income at market prices equals national income at factor costs plus indirect taxes and similar levies, minus subsidies.)

The increase of national incomes was in almost every instance continuous throughout and after World War II. This was not surprising as prices had been rising almost uninterruptedly after 1939, so that the nominal amounts of the national income were bound to advance in the absence of a very marked setback in productive activity. During postwar years the effect of rising prices on national incomes was accentuated by the effect of rising production. It was unfortunate that there was, in the existing stage of the progress of national income statistics, no way of ascertaining to what extent the increases of national incomes were purely nominal, being due to a depreciation of the national currency, and to what extent there had been real increases. In some instances, such as France, until 1949 the nominal increase of the national income lagged behind the increase of the cost of living, so that the assumption was that there had been an actual decline of the real national income.

The increase in the volume of employment throughout Europe and the Commonwealth, even before World War II, partly through the reduction of unemployment, partly through the larger number of women, older people, etc., now engaged in paid employment, and partly through the increase of the population, contributed towards the higher national incomes. The increase of populations was a factor of particular importance and deserved to be taken into account more than it had been so far, because if the increase of the national income—after allowing for currency depreciation—was no more than equal to the proportion of the increase of the population there was no real increase of wealth. From this point of view it was the changes in the national income per head of the population that mattered.

All countries publishing national income figures showed more or less substantial increases during 1948 in spite of the efforts, successful or otherwise, to check and even reverse postwar inflation. In Great Britain the wages and dividends ceiling adopted by the government at the beginning of 1948 did not prevent an increase of some 10%, only part of which could be accounted for by the further rise in prices. In Belgium and the Netherlands the rise was even more pronounced; but the Scandinavian countries registered more moderate advances. The remarkable expansion of national wealth in the dominions continued unabated.

Apart from changes in grand totals of national incomes, it was interesting to study the changes in individual items within the totals. The British White Paper contained an interesting comparison of various national income items before World War II and in 1946, 1947 and 1948. It threw some light on the redistribution of incomes that had taken place even before the levelling effect of high taxation.

TABLE II.—COMPOSITION OF THE NATIONAL INCOME
(£ million)

	1938	1946	1947	1948
1. Wages	1,735	3,095	3,530	3,975
2. Salaries	1,110	1,630	1,750	1,850
3. Pay and allowances of the armed forces	78	524	346	246
4. Professional earnings	84	134	147	161
5. Income from farming	60	190	203	248
6. Profits of other sole traders and partnerships	440	815	880	970
7. Trading profits of companies	543	1,219	1,393	1,639
8. Operating profits of public enterprises	27	26	18	116
9. Rent of land and buildings	395	422	425	430
10. Income arising in the United Kingdom	4,472	8,055	8,692	9,635
11. Net income from abroad	168	56	33	40
12. National income	4,640	8,111	8,725	9,675

SOURCE: *National Income and Expenditure of the United Kingdom*, (H M S O, London, 1949)

Although wages had more than doubled, during the ten years ended 1948, salaries increased by only some 70%, a fact which showed the stronger bargaining position of physical labourers compared with black-coated workers. Professional earnings also rose to a smaller extent than wages. The increase of trading profits was striking, but in that respect the effect of higher taxation on net profits had to be borne in mind. Incomes from farming increased by over 200% by 1947 and by 300% by 1948, though the latter was an abnormally good year. This sharp increase was largely due, however, to the abnormally low level of farming profits before World War II. Continued rent control was reflected in the very moderate increase of incomes from rent of land and buildings. The decline of Great Britain's net income from abroad to less than a quarter of its prewar figure was a change of considerable importance. The higher total of pay and allowances of the British armed forces was largely due to the maintenance of a larger number of men under arms than before World War II.

The levelling effect of taxation on various items of the national income was illustrated by the fact that, whereas before World War II untaxed wages were roughly equal to the total of untaxed profits and interest, and rent and taxed wages were 39% of the total of personal incomes against 34% for profits, interest and rents, in 1948 untaxed wages represented 44% and taxed wages 48% and profits, interest and rent declined to 32% before taxation and to 28% after taxation. Salaries too represented a lower proportion of the total, both before and after taxation, than before World War II. According to the estimate of the Oxford University Institute of Statistics, the net national income of Great Britain during the third quarter of 1949 was at the annual

rate of £10,470 million; real income had been rising throughout the year at the same rate as in 1948, viz., £90 million a quarter; and the increase of wages seemed to have slowed down, the proportion of wages to the national income being somewhat lower than in 1948.

It could be assumed that the national income of many other European and Commonwealth countries besides Great Britain continued to rise during 1949. There was no setback of trade and prices comparable to that experienced in the United States during the first half of the year and again after the devaluation of sterling. Nor was there any substantial unemployment, except in Belgium and Italy. In spite of much talk about disinflation and the profits of a large number of firms showing declines, the wages bills continued to increase everywhere. In none of the countries did the experience of the early '20s or the early '30s, when deflation went far enough to cause a substantial decline in the national income, repeat itself during the period after World War II. Since almost all western European and Commonwealth countries devalued in Sept. 1949, this further removed the possibility of any such setback. Although the devaluations could not produce any appreciable effect on national incomes in Europe within the brief space of the three months, they certainly influenced the underlying trends in the direction of an increase in national income. This was most marked in the raw material producing Commonwealth countries, since the prices of their staple products in terms of sterling rose sharply; their increased exporting capacity, also a result of devaluation, set into motion factors tending to cause an expansion of production. In European countries the effect, though not so distinct, was substantially the same, for it had the effect of increasing production, wages and profits Thus it could be assumed that in the last quarter of 1949 there was an increase in the national income both in Commonwealth countries and, to a lesser extent, in European countries.

(P. EG.)

United States. According to preliminary estimates, the U.S. National income in 1949 amounted to $222,000 million and the gross national product to $259,000 million. Both of these comprehensive measures of the nation's economic activity were less than 2% below the record established in 1948.

Another indication of economic well-being in 1949 was the virtual maintenance of personal income at the 1948 level. Preliminary data indicated that personal incomes aggregated $210,000 million in 1949, only slightly below the record total of $212,000 million in the previous year.

The pace of economic activity was not uniform throughout 1949. National income and product continued their upward postwar movement throughout 1948 but turned downward in the first half of 1949. With the recovery of industrial production and construction, there was a general stabilization in business activity following this downward adjustment.

National income, as measured by the U.S. Department of Commerce, is the sum of the net earnings of labour and property arising from the current production of goods and services by the nation's economy.

Personal income is the current income received by persons from all sources, including transfers from government and business but excluding transfers among persons. Not only individuals (including owners of unincorporated enterprises), but non-profit institutions and private trust and welfare funds are classified as persons.

Gross national product or expenditure is the market value of goods and services produced by the nation's economy, before deduction of depreciation charges and other allowances for business and institutional consumption of durable capital goods. Other business products used up by business in the accounting period are excluded.

A substantial reduction in the income of farm proprietors was the principal change in the distributive shares of national income from 1948 to 1949. There were comparatively minor changes in the proportions of national income formed by the other broad types of earnings.

TABLE III.—NATIONAL INCOME BY DISTRIBUTION SHARES
(In 000,000,000s of dollars)*

Item	1939	1947	1948	1949†
National income	72·5	201·7	226·2	222·0
Compensation of employees	47·8	127·6	140·3	140·5
Wages and salaries	45·7	122·3	135·3	135·0
Private	37·5	104·8	116·1	114·3
Military	4	4·0	3·9	4·1
Government civilian	7·8	13·6	15·2	16·6
Supplements to wages and salaries	2·1	5·3	5·0	5·5
Employer contributions for social insurance	1·5	3·5	3·0	3·4
Other labour income	·5	1·8	2·0	2·1
Income of unincorporated enterprises and inventory valuation adjustment	11·3	38·5	42·8	39·1
Business and professional	6·8	23·1	24·5	24·1
Income of unincorporated enterprises	6·9	24·7	24·9	‡
Inventory valuation adjustment	-·2	—1·6	—·4	†
Farm	4·5	15·4	18·4	15·0
Rental income of persons	3·5	6·5	6·6	6·6
Corporate profits and inventory valuation adjustment	5·8	25·6	32·6	31·5
Corporate profits before tax	6·5	31·6	34·8	28·8
Corporate profits tax liability	1·5	12·5	13·6	11·5
Corporate profits after tax	5·0	19·1	21·2	17·3
Dividends	3·8	7·0	7·9	8·4
Undistributed profits	1·2	12·1	13·2	8·9
Inventory valuation adjustment	—·7	—6·0	—2·2	2·7
Net interest	4·2	3·4	3·8	4·2

* Details are given in rounded numbers and will not necessarily equal totals
† First three quarters actual, last quarter estimated ‡ Not available
SOURCE U.S. Department of Commerce

Wages and salaries remained stable at the 1948 level of $135,000 million, as higher average earnings offset a small reduction in the total number of workers employed. Government pay rolls, including civilian and military, advanced from $19,100 million to $20,700 million over the two years, whereas private-industry pay rolls declined from $116,100 million to $114,300 million. This small decline was centred in manufacturing, which was the sector in the nation's non-agricultural economy most directly affected by the business downturn in the first half of 1949.

Nearly all of the 1948-49 decrease of business earnings in the non-corporate sector occurred in agriculture. The aggregate net income of farm proprietors dropped from $18,400 million to $15,000 million, chiefly because of lower farm prices.

The corporate profits component of national income—"corporate profits and inventory valuation adjustment"—was an estimated $31,500 million in 1949, as compared with $32,600 million in the preceding year. The decline in this measure of corporate earnings was very much less than that shown by "corporate profits before tax." The sizable drop in the latter measure, from $34,800 million to $28,800 million, reflected very largely the predominant corporate practice of charging inventories to cost of sales in terms of prior-period prices, rather than current replacement prices.

The 1948-49 decline in the gross national product was accounted for by a substantial drop in inventory investment demand. In 1948, when inventories were still rising to meet postwar requirements, there was an inventory accumulation of $6,500 million. In 1949, however, there was a small liquidation of inventories.

Net foreign investment, which measures the net export of goods and services commercially financed, expanded sharply in the early postwar period because of the heavy demand for

TABLE IV.—GROSS NATIONAL PRODUCT OR EXPENDITURE
(In 000,000,000s of dollars)*

Item	1939	1947	1948	1949†
Gross national product	91 3	235 7	262 4	258·7
Personal consumption expenditures	67·5	166 9	178 8	178·5
Durable goods	6 7	22 0	23 5	24·8
Non-durable goods	35·3	96 2	102 2	97·7
Services	25·5	48·8	53 1	56 0
Gross private domestic investment	9·9	31·1	45 0	36·8
New construction	4·9	13 8	17 9	17·2
Producers' durable equipment	4·6	17 2	20 7	20 0
Change in business inventories	4	1	6·5	-0·4
Net foreign investment	·9	8 9	1 9	0
Government purchases of goods and services	13 1	28 8	36·7	43·5
Federal	5·2	15 7	20 9	25·7
State and local	7 9	13 1	15·8	17·8

* Details are given in rounded numbers and will not necessarily equal totals
† First three quarters actual, last quarter estimated
SOURCE U S Department of Commerce

U.S. goods by foreign countries whose economies had been disrupted by the war. Foreign investment declined sharply thereafter, to a level of $1,000 million in 1948 and to approximately zero in 1949. The decline reflected mainly the growing exhaustion of foreign dollar and gold resources. It represented partly, however, a shift to U.S. government grants under the Foreign Assistance act as a means of financing exports.

Government purchases of goods and services advanced from $36,700 million in 1948 to $43,500 million in 1949. Both the federal and the state and local governments contributed to this expansion, which helped to counterbalance the decline in total demand emanating from private sectors of the economy. The sharp rise in federal purchases of goods and services, from $20,900 million to $25,700 million, was chiefly due to increased outlays for foreign aid and to larger military expenditures. Expenditures for goods and services by state and local governments rose $2,000 million, mainly as a result of increases in public pay rolls and in outlays for schools, highways and other types of construction.

Estimates of personal income and its disposition are provided in Table V. Personal income was only slightly lower in 1949 than in the preceding year. With the sizable reduction in personal taxes, reflecting both the lower rates in effect in 1949 and refunds on 1948 tax payments, disposable personal income was actually a little higher than in 1948. As a consequence, consumers were able in 1949 not only to maintain the volume of their expenditures for goods and services at the 1948 level, but also to save somewhat more than they did in the previous year. Personal saving amounted to 6% of disposable income in 1949. (*See* also WEALTH AND INCOME, DISTRIBUTION OF.)

TABLE V —PERSONAL INCOME AND DISPOSITION OF INCOME
(In 000,000,000s of dollars)*

Item	1939	1947	1948	1949†
Personal income	72 6	193 5	211 9	209 9
Wage and Salary receipts	45·1	120 2	133 1	132 8
Total employer disbursements	45·7	122 3	135 3	135 0
Less· Employees' contributions for social insurance	6	2·1	2 1	2 2
Other labour income	·5	1·8	2 0	2·1
Proprietors' and rental income	14·7	45 1	49 5	45 7
Dividends	3 8	7 0	7 9	8·4
Personal interest income	5 4	7 8	8 3	8·8
Transfer payments	3 0	11 7	11 1	12·0
Less. Personal tax and non-tax payments	2 4	21 5	21 1	18 8
Federal	1·2	19 6	19 0	n a.
State and local	1 2	1·9	2 1	n a.
Equals Disposable personal income	70 2	172 0	190 8	191·5
Less Personal consumption expenditures	67·5	166 9	178·8	178·5
Equals. Personal saving	2 7	5 1	12 0	13·0

* Details are given in rounded numbers and will not necessarily equal totals
† First three quarters actual, last quarter estimated
SOURCE· U.S Department of Commerce

(C. F. Sz.)

NATIONAL INSURANCE. The national insurance schemes, including that replacing the former Workmen's Compensation scheme, came into operation on July 5, 1948, and there was no further legislation on the subject in 1949. Like many modern statutes the implementation of the two acts required the making of a large number of regulations by the minister of national insurance. During the year there were some amendments to these regulations.

In the first 12 months of the operation of the new scheme 10 million claims, involving 40 million separate payments, were dealt with at the 987 local offices of the Ministry of National Insurance. The death grant payable under the act, which was a cash payment varying in amount up to a maximum of £20 to help to meet the expenses connected with the death of an insured person, did not take effect until July 5, 1949. Seven million new claims to sickness benefit were made in the year, about half of which included claims for dependants. Under the former national insurance schemes no payments were made for dependants. There were 800,000 maternity benefit claims. At the end of the period July 5, 1948-July 5, 1949, 4,150,000 men over 65 and women over 60 were receiving national insurance retirement or old age pensions. About two-thirds of all insured men reaching 65, and about one-half of all insured women reaching 60, after July 5, 1948, continued in regular employment and accordingly qualified for the increments for postponed retirement that would be added to their retirement pension when they eventually did retire and claim the pension. These increments were in effect 1*s.* (2*s.* for married couples) for every six months of postponed retirement and could increase the joint pension of a man with a wife over 60 by 20*s* to 62*s.* a week.

Four hundred and sixty thousand widows under 60 were receiving widows' benefits. A new arrangement was brought into force during 1949 whereby anyone notifying the death of a married man received from the registrar of deaths a simple leaflet giving details of the national insurance death grant and widows' benefits. In addition to the widows' benefits, guardians' allowances or orphans' pensions were being paid to 10,000 children. Industrial injuries insurance formed another big section of the scheme. About 750,000 claims were made to industrial injuries benefits during the first year.

In Sept. 1949 changes were made in the application of the main insurance scheme to persons who were being maintained free of charge in hospital under the national health service scheme or by the Ministry of Pensions. No reduction of benefit was to be made normally during the first eight weeks in hospital, but after that period the benefit was reduced by 5*s.* a week if the patient could be treated as having a dependant, or otherwise by 10*s.* a week. After a year in hospital no more than 5*s.* was normally payable direct to a person in hospital, unless he was under treatment for respiratory tuberculosis, in which case 10*s.* was payable. The exception related to certain circumstances where the person had a dependant.

Towards the end of the year, draft regulations were made by the minister modifying the classification for national insurance purposes of persons in certain specified part-time employment. The administration of the scheme, like the previous scheme, involved insurance cards being stamped which, in the case of a large organization, caused considerable work. Arrangements were therefore made by the ministry with certain large employers under which payments could be made in bulk.

The foreign ministers of Belgium, France, Luxembourg, the Netherlands and the United Kingdom signed two important conventions representing a new stage in their collaboration in social matters. The first convention, which was closely linked with the network of bilateral agreements on social security already negotiated or in course of negotiations, enabled nationals of these countries to take advantage of any

of these bilateral agreements, no matter in which of the five countries they were residing or had resided. The benefits covered by these agreements included benefits provided in case of sickness, invalidity, old age, death, maternity, industrial injuries and prescribed occupational diseases. The second convention was based on the principle that, if a national of any of the five countries, when resident in the territory of any of the other four, required social or medical assistance but was without sufficient resources, he would receive such assistance from the latter country on the same basis as its own nationals. (*See* also NATIONAL HEALTH SERVICE; SOCIAL SECURITY, U.S.) (JO. MS.)

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NATIONALIZATION. In 1949 the pace at which nationalization had been carried out since 1945 was sensibly slowed down. In Great Britain the Labour government's programme was completed. In Europe generally such nationalization as was intended had been carried out before the beginning of the year. And in the Commonwealth and other countries there was actually some retreat. In some countries the need for foreign capital dictated a more cautious policy. In Great Britain compensation was paid during the year for the Cable and Wireless company and for many of the gas undertakings; in their trade treaties the countries of eastern Europe made arrangements to compensate the expropriated foreign holders.

Great Britain. In Great Britain the only tangible development in the Labour government's programme of nationalization was the vesting of the gas industry (May 1). All other industries intended for nationalization had been vested in state ownership before the beginning of 1949 with the exception of iron and steel. The Iron and Steel bill was given its third reading by both houses of parliament in the summer; and a compromise at the last minute over the vesting date enabled the bill to receive the royal assent on Nov. 24 —without the operation of the new Parliament act. According to the act the industry was to be vested in public ownership on Jan. 1, 1951, or within a year from that date, no members of the corporation being appointed before Oct 1950. Whether or not it should be nationalized was thus made to depend on a general election. (*See* IRON AND STEEL.)

However, 1949 also saw the publication of the Labour party's proposals for fresh nationalization, and the Conservative party's counter-proposals for dealing with the industries already nationalized. The Labour party's policy statement included the nationalization of all departments of all industrial insurance companies, which later in the year was modified to "mutualization"; of cement; of sugar manufacturing and refining; of meat wholesaling; of water; and of all "suitable" mineral rights. The document also proposed an examination of the chemical industry with a view to nationalization and a development council for the shipbuilding industry. It foreshadowed besides a new departure in the party's attitude to state ownership; for, where nationalization was thought to be unsuitable, it suggested that state-owned undertakings should enter into competition with private industry. The general principle of the Conservative counter-proposals was that nationalization should be undone as far as possible: the nationalization of iron and steel would of course be reversed; but, in addition, road haulage and road passenger transport would be sold back to private ownership; and the Liverpool cotton exchange would be re-opened. Other industries in the Conservative view could not be de-nationalized. For these, in a radical decentralization, it was proposed that there should be independent price tribunals and that the operations of the nationalized industries should be brought within the scope of the Monopolies commission. (*See* POLITICAL PARTIES, BRITISH.)

During 1949 the reports of several of the major nationalized industries for 1948 were published. In 1948 the National Coal board made an operating profit of £16·2 million and a net profit of £1·7 million; but it still carried over into 1949 a deficit of £21·8 million—the result of the loss in 1947. The year's profit was almost entirely due to the premium of £1 a ton which was obtained for export coal and the board felt it necessary to say that this premium could not be counted on for very much longer. However, devaluation later in the year gave the board a further margin in many markets; and in the first and second quarters of 1949 the board reported net profits of £3·8 million and £2·5 million respectively. Later in the year the outlook for the industry was less promising. The cost curve which had seemed to be flattening out took another upward turn; and in Britain, as in France, a fall in the labour force set in, spreading even to the face-workers. Nevertheless, the production target set was reached. (*See* COAL.)

The Transport commission reported a much smaller loss for 1948 than had generally been expected. There was a revenue deficit of £1·7 million and a net deficit of £4·7 million. This unexpectedly favourable result was due, in part, to the economies that had been put in hand before nationalization; in part also it reflected a perhaps inadequate provision for depreciation; nothing was placed to general reserve. Nor was it more than superficial; for by the end of the year the prospect of a £20 million deficit forced the commission to apply for increased freight charges on the railways. The commission was unable to report much progress in its principal task of unification since its main preoccupation was and would be for some time, the standardization of its separate parts. But during 1949 the British railways announced further schemes for the standardization of equipment and two area schemes for road passenger transport were published. Towards the end of the year the appointed day for the takeover of long-distance road haulage was announced. (*See* MOTOR TRANSPORT; RAILWAYS.)

Cable and Wireless, in spite of rising costs and unchanged traffic, made a profit for 1948 almost exactly the same as that for 1947—£1·7 million; and the falling trend of traffic seemed to have been checked. (*See* TELEGRAPHY.)

The Raw Cotton commission made a profit of £1·0 million on a turnover of £61·1 million.

The nationalized air transport once again exceeded its vote. B.O.A C. reduced its deficit by £1·2 million and B.E.A. by £800,000. But B.S.A.A.'s deficit increased and the combined loss was only slightly lower at £9·7 million. These losses were again largely owing to the use of unsuitable types of aircraft, but both the major corporations reported an increase both in capacity-ton miles and in productivity. A bill was introduced merging B.O.A.C. and B.S.A.A. But the fruits of this merger were not expected to be gathered until well on into 1950 and it was likely that the target of a deficit of £5·5 million for 1949 would not be fulfilled. (*See* AVIATION, CIVIL.)

The British Electricity Authority whose first report was published at the end of the year made a profit of £4,391,684 in its first financial year which ended on March 31, 1949.

These financial results were on the whole better than those for 1947. But in 1949 it was still too early to judge the results of nationalization solely by profit and loss. In general, though the nationalized industries had the statutory duty of balancing their accounts "taking one year with another," the proponents of nationalization tended to argue that the industries should be judged primarily by the service that they rendered, secondly as instruments for maintaining full employment and only thirdly as ordinary commercial undertakings. Here the experience of 1949 suggested that the development of the nationalized industries was following two directions. On the one hand, those industries, which like

cable and wireless, or even gas and electricity, offered the community largely technical services, employing relatively small labour forces, showed every sign of carrying on under state ownership in almost exactly the same ways as under private ownership. The integration of capital investment was expected to yield economies, but only in the long run. On the other hand, the industries which were large employers of labour and whose labour costs formed the principal item of their expenses, particularly coal and transport, seemed to be running into trouble precisely where nationalization had been expected to bring the greatest benefits. In 1947 the principal benefit of nationalization had been psychological; production rose and the labour force expanded. But in 1949 it seemed that this initial enthusiasm was dying away. And both the coal mines and the nationalized transport suffered from unofficial strikes. Those who had always opposed nationalization considered they had found confirmation for their belief that the association of the trade union leaders in management would not in the long run be wise. And even the supporters of nationalization seemed sometimes to doubt whether the ownership of these industries by independent public corporations offered the most satisfactory way of controlling them.

Europe. In Europe the difficulties of the nationalized industries were hard to distinguish from the economic difficulties of the countries. Particularly in eastern Europe, where nationalization had been one of the means of implementing very heavy programmes of capital investment, the failure to produce sufficient was a general complaint.

In France only the *Regié* Renault and the nationalized electricity undertaking made profits: the profit of Fr. 25,000 million shown in 1948 for electricity, however, took no account of capital expenditure which was financed by the counterpart fund of Marshall aid. Gas, transport and the mines all showed losses and there seemed little hope that the losses would be less in 1949. The nationalized railways, though they succeeded early in 1949 in returning to prewar standards of service, were severely criticized for the number of pensioners, for the financial organization, for methods of control and for the unco-ordinated way in which they had planned. Railway lines known to be uneconomic before 1939 had been restored, though competition from the roads and from the waterways would soon close them.

The coal mines suffered heavily in the strikes of 1948; the contribution of Fr. 8,000 million made by the government was estimated to be too little. And they had the formidable task of overtaking arrears of maintenance. It was estimated that Fr. 53,000 million of investment was needed merely to maintain production, a further Fr. 57,000 million for long term development and Fr. 34,000 million for overtaking arrears of maintenance. The prewar production rate was recovered, but in spite of an improvement in productivity during 1949 the Monnet plan objective of 65 million tons in 1950 and 70 million tons in 1952 had to be modified to 60 million tons in 1952.

In eastern Europe the nationalization of industries was virtually complete at the beginning of the year. Where parts of the economy were still in private hands, as for example some of the retail shops in Czechoslovakia, the distribution of supplies was used as a method of squeezing out private ownership. One of the few countries still nationalizing was Rumania, where, during the year, the pharmacy industry and insurance were transferred to public ownership—with the exception of those establishments which had already been transferred to the U.S.S.R. as reparations. Almost everywhere during 1949 there was, it seemed, a fall in output in the nationalized industries below the targets set. And special measures were taken. In Hungary " norms " of work were laid down each month and the workers shared in profits if they exceeded the norm. In Czechoslovakia a system of accounting was adopted under which each workshop was treated as a self-supporting unit; rendering weekly and fortnightly accounts. Only in Western Germany, where the election results were interpreted as a vote against nationalization, was there a specific reaction against the policy.

Commonwealth. In the Commonwealth countries there was a distinction in attitude between those countries which were industrially advanced and those which were in need of foreign capital. In New Zealand (though at the end of the year the vote against the Labour government was in part a vote against nationalization) a further step was taken when in April the privately owned coal mines were nationalized; plans were also made during the year for the construction of a state-owned pulp and paper mill. In Canada plans were made to nationalize the whole external communications system, including Canadian interests in the British state-owned Cable and Wireless company. In Australia the desire of the government was once again over-ruled by a legal decision. During 1948 the act nationalizing the trading banks was declared unconstitutional by the High Court, and in 1949 this decision was confirmed after a record hearing of 36 days by the judicial committee of the Privy Council. On the other hand in the countries where the need for capital was great, the policy of nationalization was considerably modified. In India the government was publicly committed not to entertain any further projects for nationalization for a period of 10 years. And in Burma, private capital was invited to share in all the major industries, some of which had been nationalized in 1948, under terms which guaranteed the investor against nationalization for a specific period. (J. R. AY.)

NATIONAL PARKS. In March 1949 the National Parks and Access to the Countryside bill was published. The main objects of the bill were to provide for the designation of national parks in England and Wales and for the establishment of a National Parks commission; to confer on the Nature Conservancy and on local authorities' powers for the recording, creation, maintenance and improvement of public paths and for the establishment of long distance routes; to enable the public to have access to open country; to confer further powers for preserving and enhancing the natural beauty of the countryside; and to provide for exchequer assistance towards these purposes. The bill broadly followed the recommendations of the Hobhouse committee which reported in July 1947, but differed from it in giving administrative powers to local county councils and borough councils. The National Parks commission, appointed by the minister of town and country planning, would select any extensive and beautiful area which it considered suitable and would encourage the provision and improvement of facilities for visitors to the national parks. The bill received the Royal Assent on Dec. 16 and Sir Patrick Duff was appointed first chairman of the National Parks commission.

The six National Forest parks, administered by the Forestry commission, became increasingly popular. More camping sites were provided and facilities for visitors improved. Additional guides to the forest parks were published including booklets on Hardknott and Glenmore.

Canada. The Fundy national park was officially opened during the summer of 1949. The 80 sq. mi. scenic and recreational area in New Brunswick was proclaimed a national park in April 1948 and in 1949 parliament approved the name " Fundy." An essay contest was held throughout provincial schools to select a title for the park. In June the deputy minister of mines and resources, Dr. H. L. Keenleyside, announced that the Dominion Wildlife service would carry out special intensive studies of wildlife in the national parks. Developments in the national parks included additional

work on park highways in Waterton Lakes park, Prince Albert national park, Riding Mountain national park, Cape Breton Highlands national park and on the highways leading to the mountain national parks. Facilities for the protection of the park forests were also improved. During the first four months of the fiscal year 46·5% more visitors entered the parks compared with the same period in 1948. In August 1949 visitors to the parks numbered 485,133.

Kenya. The government took over the ancient ruined city of Gedi, 10 mi. south of Malindi, as a national park. Investigation and conservation work was to be carried out by J. S. Kirkman, warden of Kenya's historic sites. The ruins of the city, which include five mosques, a ruler's palace and many large houses were first discovered 25 years ago.

New Zealand. Extending south from a track between Te Anau and Milford sound to Lake Manapouri an area of 400,000 ac. of Fiordland national park in South Island was proclaimed a bird sanctuary.

Northern Rhodesia. In September the Legislative Council passed a motion providing for the proclamation of an area of 8,650 sq. mi. in the southern, central and western provinces as a national park. The area was situated entirely in Native trust lands and was almost entirely infested with tsetse fly and had extremely poor soil. It was almost uninhabited except in a small area along the Kafue river. It was estimated than an expenditure of £40,000 over a period of three years would be required to bring it up to the standard of the Wankie game reserve and that the recurrent expenditure would be approximately £8,000 a year.

Southern Rhodesia. A National Parks act was passed during the year. It provided for the establishment of national parks and for the preservation of wild animal and fish life and vegetation and objects of geological, ethnological, historical or other scientific interest; and for the control and management of such parks by a National Parks Advisory board appointed by the minister of internal affairs. The act scheduled the following areas as national parks: Wankie game reserve (3,256,998 ac.); Robins game sanctuary (25,398 ac.); Kazuma Pan game reserve (48,640 ac.) and Chimanimani national park (20,213 ac.). The first three were situated in the Wankie native district and the last in the Melsetter district.

Uganda. An official committee was set up during the year to examine the possibility of establishing national parks in the protectorate. (X.)

United States. Visitors to U.S. national parks and other areas totalled 31,864,180 in 1949, an increase of more than 2,250,000 over 1948.

Three areas of historic significance were established. The massive fortifications in San Juan, Puerto Rico, were designated as San Juan National Historic site; blufflands along the Mississippi river containing unusual prehistoric earth mounds were established as Effigy Mounds National monument; and the De Soto National memorial, to commemorate the landing of Ferdinando de Soto's expedition in Tampa bay, was established in the vicinity of Bradenton, Florida. Deeds to approximately 33,500 ac. of land in the Jackson Hole region of Wyoming were donated to the federal government by John D. Rockefeller, Jr., for administration as part of Jackson Hole National monument. At the year's close, areas administered by the National Park service totalled 181, with a combined area of 21,754,134 ac. (N. B. D.)

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NATIONAL TRUST. During 1949 the National Trust for Places of Historic Interest or Natural Beauty received £80,000 in legacies. With its 1,000 properties comprising 150,000 ac., it was the largest non-official landowner in England and Wales. Its membership totalled 16,500.

The principal houses acquired during the y ar were Rainham hall (Essex), Buscot park (Berkshire), Lytes Cary (Somerset), Sizergh castle (Westmorland) and Lamb house (Rye). Rainham hall, a good example of late Renaissance architecture, was built about 1729. The panellings and wrought-iron gates were of particular interest. Busco park, 3 mi. northwest of Faringdon, was well known for the "Briar Rose" paintings by Sir Edward Burne-Jones and for its gardens laid out by Harold Peto. Lytes Cary, near Ilchester, a typical Somerset manor house, was the home for 500 years of the Lyte family. Sir Walter Jenner, under whose will the house and its contents were acquired, had re-laid the garden in the Elizabethan tradition. Sizergh castle, 3½ mi. south of Kendal, is a fortified mansion with a peel tower of the 14th century in perfect condition, and with good oak wainscoting of the 16th century. It was given by the Hornyold-Stricklands family whose ancestors lived there for many centuries. Lamb house, Rye, is a fine Georgian house long occupied by the novelist Henry James.

With the aid of other societies the National Trust acquired eight early 17th century stone cottages known as Arlington row, Bibury, Gloucestershire. The birthplace of George Stephenson, the inventor, at Wylam-on-Tyne was given by the North-East Coast Institution of Engineers and Shipbuilders. It was a workman's cottgae built about 1750. On wooden rails running past the house Stephenson watched experiments with the earliest locomotives.

Among the fine scenery acquired during the year were the moorland hilltop of Lantern Pike, Derbyshire; the Slindon estate, near Bognor, devised by Wootton Isaacson, comprising 3,600 ac. extending to the summit of the south downs; Durford heath, also in Sussex; Low Wray farm (420 ac.), on the western shore of Windermere; The Side (874 ac.), in Ennerdale; Bull crag (69 ac.), at the foot of Langstrath, Derwentwater; Eaves wood (97 ac.), north of Carnforth; and Southdown farm (273 ac.), with views over Somerset, Dorset, Devon, Cornwall and the sea.

Section 27 of the Finance act, 1949, exempted from death duties endowments for the maintenance of the Trust's inalienable properties (which themselves had been exempt since 1931.) An arrangement was made with the Queen's Institute of District Nursing whereby the Trust's garden fund would receive a share of the entrance fees to private gardens opened to the public.

Earl de la Warr succeeded Dr. G. M. Trevelyan as chairman of the Trust's estates committee. F. W. Rathbone was appointed secretary in succession to Vice Admiral O. Bevir. (*See* also MONUMENTS AND MEMORIALS; NATIONAL PARKS.)

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NAURU: *see* BRITISH EMPIRE; TRUST TERRITORIES.

NAVIES OF THE WORLD. At the end of 1949 only two navies could be considered as being first class, those of the United States and of Great Britain, the former being fully three times larger than the latter. The fleets of the U.S.S.R., France and Italy could be reckoned as second class, and those of Argentina, Australia, Brazil, Canada, Chile, Netherlands, Spain, Sweden and Turkey as third class. Several of the smaller navies renewed their strength by acquiring surplus warships from the United States and Great Britain. The relative strengths of the navies of the world can be seen at a glance from the table.

It became apparent during the year that the importance of the battleship and the cruiser had more than ever waned, and that the various admiralties and navy departments were concentrating on the development of aircraft carriers, destroyers, submarines and frigates to counter the ever increasing

NAVIES OF THE WORLD, DEC. 1949

	Battleships	Battle Cruisers	Fleet Aircraft Carriers	Light Fleet Aircraft Carriers	Escort Aircraft Carriers	Cruisers	Coast Defence Ships & Monitors	Fleet Destroyers	Escort Destroyers and Frigates	Submarines
UNITED STATES	15	2	28	9	66	69	1	363	244	172
GREAT BRITAIN	5	—	6	6	1	25	2	111	167	68
U.S.S.R.	3	—	—	—	—	14	2	60	24	360
FRANCE	2	—	—	1	1	11	1	20	16	12
ITALY	2	—	—	—	—	4	-	4	16	—
ARGENTINA	2	—	—	—	—	3	1	11	8	3
AUSTRALIA	—	—	—	1	—	3	—	10	14	—
CANADA	—	—	—	1	—	2	—	11	15	—
BRAZIL	1	—	—	—	—	—	—	7	8	4
CHILE	1	—	—	—	—	—	2	6	3	7
TURKEY	—	1	—	—	—	—	—	12	—	10
NETHERLANDS	—	—	—	1	—	2	—	7	3	8
SWEDEN	—	—	—	—	—	4	5	13	8	24
SPAIN	—	—	—	—	—	6	—	13	15	6
NEW ZEALAND	—	—	—	—	—	2	—	—	6	—
PERU	—	—	—	—	—	2	—	1	3	4
GREECE	—	—	—	—	—	1	—	2	8	6
INDIA	—	—	—	—	—	1	—	3	5	—
NORWAY	—	—	—	—	—	—	—	6	7	5
PORTUGAL	—	—	—	—	—	—	—	5	8	6
CHINA	—	—	—	—	—	—	—	4	10	—
POLAND	—	—	—	—	—	—	—	2	—	4
PAKISTAN	—	—	—	—	—	—	—	2	4	—
DOMINICAN REP.	—	—	—	—	—	—	—	2	3	—
RUMANIA	—	—	—	—	—	—	—	2	—	1
COLOMBIA	—	—	—	—	—	—	—	2	1	—
THAILAND	—	—	—	—	—	—	4	—	6	4
DENMARK	—	—	—	—	—	—	—	—	12	3
YUGOSLAVIA	—	—	—	—	—	—	—	—	3	7
MEXICO	—	—	—	—	—	—	—	—	8	—
VENEZUELA	—	—	—	—	—	—	—	—	6	—
CUBA	—	—	—	—	—	—	—	—	5	—
SOUTH AFRICA	—	—	—	—	—	—	—	—	3	—
BELGIUM	—	—	—	—	—	—	—	—	3	—
IRISH REPUBLIC	—	—	—	—	—	—	—	—	3	—
PERSIA	—	—	—	—	—	—	—	—	1	—
ECUADOR	—	—	—	—	—	—	—	—	1	—
BURMA	—	—	—	—	—	—	—	—	1	—

menace of atomic weapons, more deadly aircraft and faster submarines.

Many battleships and cruisers of the two principal navies were broken up or discarded, together with prewar or war-built destroyers, submarines and smaller craft no longer required, but there were signs that this was the final reduction of the large wartime fleets to a postwar establishment commensurate with foreseeable needs and straitened economies.

The majority of the major warships of the principal nations were put in a state of preservation or refitted for placing in reserve, but many experiments were carried out with aircraft carriers, destroyers and submarines. While designs of the warships of the future were being prepared according to the lessons of World War II to counter the latest aircraft and submarines, most navies perforce made the best of existing warships by bringing them up to date or modifying them for new duties.

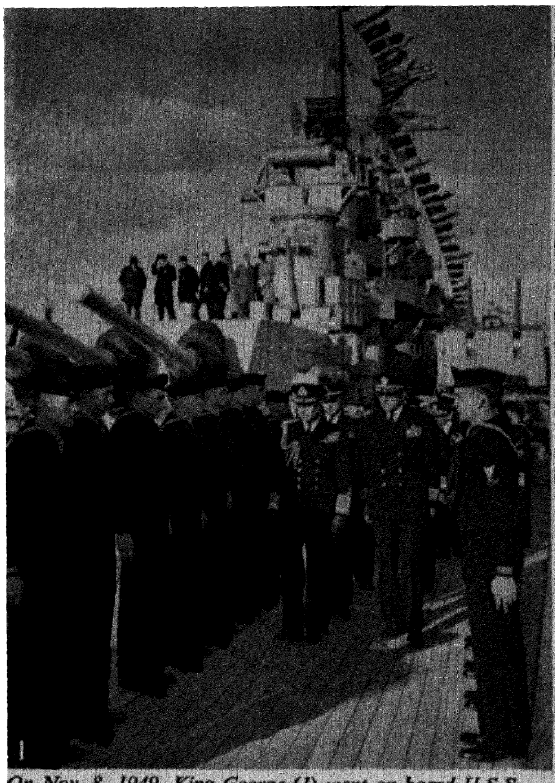
There were signs, however, that revolutionary types of warships were being prepared for the operation of atomic bombs, guided missiles, rockets and new anti-submarine and anti-aircraft weapons developed since the war, these ships being designed with novel types of propelling machinery such as atomic energy, hydrogen peroxide and gas turbines.

In most of the big navies there was a shortage of personnel to man operational ships, of which fewer than ever were in full commission. This was partly due to a falling off in recruitment and the demobilization of wartime entries, but chiefly to the long training in the handling of the complicated weapons and advanced scientific apparatus which an officer or rating must now undergo on shore before he is competent to control and maintain the equipment of modern warships.

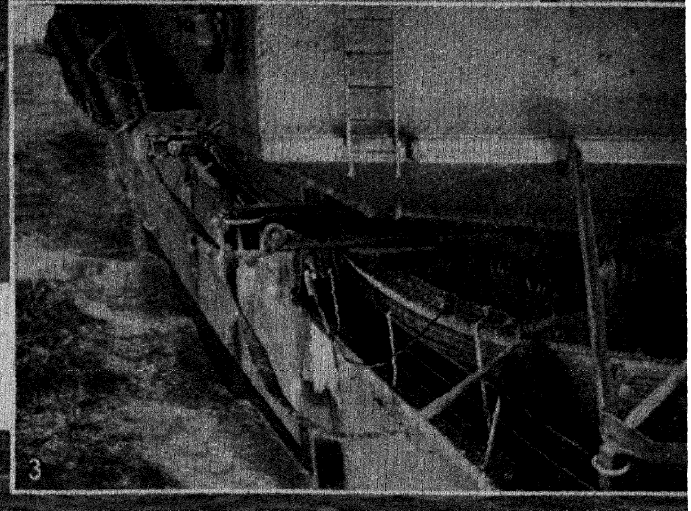
Among the naval events of the year which shocked and stirred the world were the surprising halt in the construction of the giant U.S. aircraft carrier "United States," the largest warship ever designed, only five days after she had been laid down on April 18; the trapping of the British frigate "Amethyst" by the Communists in the river Yangtse on April 20, her attempted rescue by the cruiser "London," destroyer "Consort" and frigate "Black Swan," and her subsequent remarkable feat of navigation in escaping down the river to join the fleet on the night of July 30-31; the Western Union naval "Exercise Verity" carried out by the combined fleets of Great Britain, France, the Netherlands and Belgium in July; the loss of the U.S. submarine "Cochino," which after two explosions in her battery room caught fire and sank off the north coast of Norway on Aug. 26 while on an Arctic training cruise; the loss of the Argentine minesweeper "Fournier" which sank in the Straits of Magellan on Sept. 21; the gamma ray tests on the obsolescent British cruiser "Arethusa" during the summer; and the scrapping at the end of the year of the oldest warship afloat in the world, the 148-year-old British man-o'-war "Implacable," formerly the French "Duguay-Trouin," which was laid down in 1797, fought against the British at the battle of Trafalgar, was captured a fortnight later and served in, or latterly in close association with, the Royal Navy ever since.

United States Naval Strength. Late in 1949 only one of the 15 U.S. battleships remained in full commission, the "Missouri," which led a task force of ten warships on two separate midshipmen's training cruises to Great Britain and France during the summer. The battleship "Kentucky" and the battle cruiser "Hawaii," laid down during World War II, were still only 73 and 84% complete, respectively. The 27,100 ton aircraft carrier "Oriskany," modified from the original "Essex" class design while under deferred construction, was completed in December. Twelve other ships of the class were to be modified on similar lines to enable them to operate heavier aircraft. The fleet comprised 15 battleships, two battle cruisers, 37 fleet aircraft carriers, 66 escort carriers, 25 heavy cruisers, 44 light cruisers, 363 destroyers, 244 escort destroyers, 172 submarines, 195 mine craft, 122 patrol vessels, 844 amphibious craft and 537 miscellaneous vessels. The total strength of personnel was 394,500 in the navy and 77,000 in the marine corps.

British Naval Strength. One battleship and eight cruisers were removed from the effective list. Of the five remaining battleships none was in operational commission at the end of the year, the "Vanguard" being in the training squadron and the four of the "King George V" class relegated to reserve. There were 12 fleet aircraft carriers and one escort carrier. The large aircraft carrier "Eagle" was not completed, and her sister ship "Ark Royal" was not launched. Little progress was made with the intermediate fleet carriers "Albion," "Bulwark" and "Centaur" and the remaining ship of the class, the "Hermes," was not launched. The light fleet carriers "Hercules," "Leviathan" and "Powerful" were still suspended. As a result of scrapping, cruisers were reduced to 25. No building progress was made with the cruisers "Blake," "Defence" and "Tiger" begun in 1942-43 and stopped in 1946. Destroyers numbered 111. Two of the eight large destroyers of the "Daring" class ordered during World War II were launched. There were 167 frigates, including 50 former escort destroyers of the "Hunt" group, 24 former sloops, and 26 former corvettes, which were all re-classified as frigates. Submarines numbered 68, including four "midgets." Other vessels included two monitors, three fast minelayers, three aircraft maintenance carriers, 66 fleet minesweepers, and many coastal craft, miscellaneous vessels and auxiliaries. Naval personnel numbered 146,000.







On Nov. 8, 1949, King George (1) went on board U.S.S. "Columbus" at Portsmouth. Combined manoeuvres of the navies of the Western Union powers were held in July and (2) Sea Hornets are seen on the flight deck of H.M.S. "Implacable." An earlier "Implacable," which fought at Trafalgar (4), was sunk on Dec. 2. H.M.S. "Vengeance" (3) is seen during Arctic exercises early in 1949.



U.S.S.R. The Soviet navy returned one battleship, seven destroyers and three submarines to Great Britain and one cruiser and 27 frigates to the United States which had been on loan since 1944; but the U.S.S.R. was compensated by the acquisition of one battleship, one cruiser, six destroyers, two submarines and other warships from Italy under the peace treaty, six destroyers and other warships from surrendered Japanese tonnage and a considerable number of ex-German ships, including the incomplete aircraft carrier "Graf Zeppelin." Total available strength in 1949 was three battleships, 14 cruisers, two coast defence ships, 60 destroyers, 24 escort vessels, 360 submarines and numerous minelayers, minesweepers, patrol vessels, torpedo boats and auxiliaries.

France. Owing to straitened finances the battleship "Jean Bart" was still not completed, the aircraft carrier "Clemenceau" was not proceeded with and the cruiser "De Grasse" was not resumed. The fleet comprised two battleships, one light fleet carrier, one escort carrier, 11 cruisers, one coast defence battleship, 20 fleet destroyers, 16 escort vessels and frigates, 12 submarines and numerous patrol vessels and other warships. Personnel numbered 50,000.

Italy. The fleet was reduced to the two battleships, four cruisers, four fleet destroyers, 16 escort destroyers, 20 corvettes and a number of minesweepers and auxiliaries that were allowed under the peace treaty.

Other European Countries. Turkey acquired four destroyers from the United States, and now had one old battle cruiser, 12 fleet destroyers, ten submarines, and smaller warships. Personnel: 4,800.

The Netherlands had a well balanced fleet of one light fleet aircraft carrier, two cruisers, seven destroyers, three escort vessels, eight submarines and a number of other warships and auxiliaries, among them a sloop converted into a radar training ship and an ex-German whaler adapted as a submarine detection ship. Personnel: 27,700.

Sweden had four cruisers, five coast defence ships, 13 fleet destroyers, eight escort vessels, including two older destroyers being converted into anti-submarine vessels, 24 submarines, two minelayers and numerous other warships including a radar training ship. Personnel: 13,500.

Spain possessed six cruisers, 13 fleet destroyers, 15 escort vessels, six submarines, six minelayers and seven fleet minesweepers, also many minor warships and auxiliaries. Personnel: 22,300.

Greece had one cruiser, two destroyers, eight escort destroyers, six submarines, eight corvettes and numerous smaller craft. Personnel: 10,000.

Norway had six destroyers, seven escort destroyers, five submarines, three corvettes, two fleet minesweepers and sundry minor warships.

Portugal acquired three submarines and two frigates from Great Britain, and completed the reconstruction and modernization of her five fleet destroyers. At the end of 1949 there were five destroyers, eight sloops and frigates, six submarines and various ancillary vessels.

Poland had two destroyers, four submarines, and smaller craft.

Denmark possessed ten torpedo boats or small escort destroyers, two frigates, three submarines, a corvette and minor vessels.

Rumania had two destroyers, one submarine, two minelayers and minor craft.

Yugoslavia had three escort destroyers and seven submarines.

Belgium possessed two sloops and a frigate, with minor craft.

Finland had only minor craft, but her navy was to be built up to the 10,000 tons aggregate allowed under peace treaty.

Bulgaria had a few coastal craft.

South and Central America. Argentina had two old battleships, three cruisers, a coast defence ship, 11 destroyers, four escort destroyers, four frigates, three submarines, a corvette, two patrol vessels and a considerable number of other craft.

Brazil had one battleship, seven fleet destroyers, eight escort destroyers and four submarines, also six trawler-type corvettes and smaller craft.

Chile possessed one battleship, two coast defence ships, six destroyers, three frigates, three corvettes and various other vessels.

Peru had two obsolete cruisers, one old destroyer, three frigates and four submarines.

The Dominican Republic had greatly strengthened her navy by the acquisition of two destroyers from Great Britain and three frigates from the United States. She also had an ex-frigate presidential yacht, five corvettes and a number of patrol vessels and coastal craft.

Colombia had two destroyers, a frigate and several smaller craft.

In the Mexican navy were four sloops, four frigates, five submarine-chaser type patrol vessels, and minor craft

Venezuela possessed six corvettes, two gunboats and a few small craft.

Cuba had two sloops, three frigates, two patrol vessels and a number of minor war vessels.

Asia. China's navy was very divided The cruiser "Chungking," formerly H.M.S. "Aurora," and the sloop "Chang Shih" (ex-Japanese "Uji") were lost in the civil war in March and September, respectively, and the escort destroyer "Lin Fu," formerly H.M.S. "Mendip," was returned to the Royal Navy in May. The fleet comprised four destroyers, ten vessels of the escort destroyer and sloop type and numerous corvettes, minesweepers, gunboats, patrol vessels and coastal craft.

Siam possessed four small coast defence ships, two sloops, two corvettes, an old destroyer, a fleet minesweeper, ten torpedo boats, 12 M.T.Bs. and a number of other small warships.

Persia acquired a frigate and a fleet minesweeper from Great Britain.

Modern Types of Warships. The principal types of warships in the world's navies were as follows:

Battleships. U.S. "Iowa," 45,000 tons; nine 16 in., twenty 5 in. guns; 33 knots; 200,000 S.H.P. U.S. "South Dakota," 35,000 tons; nine 16 in., twenty 5 in. guns; 30 knots; 130,000 S.H.P. British "Vanguard," 42,500 tons; eight 15 in., sixteen 5·25 in. guns; 28 knots; 130,000 S.H.P. British "King George V," 35,000 tons, ten 14 in., sixteen 5·25 in. guns; 27 knots; 110,000 S.H.P. French "Richelieu," 38,500 tons; eight 15 in., nine 6 in. guns; 30 knots; 150,000 S.H.P.

Battle Cruisers. U.S. "Alaska," 27,500 tons; nine 12 in., twelve 5 in. guns; 33 knots; 150,000 S.H.P.

Aircraft Carriers. U.S. "Midway," 45,000 tons; eighteen 5 in. guns; 137 aircraft; 33 knots; 200,000 S.H.P. U.S. "Essex," 27,100 tons; twelve 5 in. guns; 82 aircraft; 33 knots; 150,000 S.H.P. U.S. "Saipan," 14,500 tons; light guns; 48 aircraft; 33 knots; 120,000 S.H.P. U.S. "Independence," 11,000 tons; light guns, 45 aircraft; 33 knots; 100,000 S.H.P. British "Implacable," 23,000 tons; sixteen 4·5 in. guns; over 60 aircraft; 32 knots; 148,000 S.H.P. British "Glory," 13,190 tons; light guns; 40 aircraft; 25 knots; 40,000 S.H.P.

Cruisers. U.S. "Des Moines," 17,000 tons; nine 8 in., twelve 5 in. guns; 32 knots; 130,000 S.H.P. U.S. "Oregon City," 13,700 tons; nine 8 in., twelve 5 in. guns; 33 knots; 120,000 S.H.P. U.S. "Worcester," 14,700 tons; twelve 6 in., twelve 3 in. guns; 32 knots; 120,000 S.H.P. U.S. "Fargo," 10,000 tons; twelve 6 in., twelve 5 in. guns; 33 knots; 100,000 S.H.P. U.S. "San Diego," 6,000 tons; twelve 5 in. guns;

33 knots; 75,000 S.H.P. British "Superb," 8,000 tons; nine 6 in., ten 4 in. guns; 31·5 knots; 72,500 S.H.P. British "Dido," 5,450 tons; eight 5·25 in. guns; 32 knots; 62,000 S.H.P. Swedish "Tre Kronor," 7,400 tons; seven 6 in. guns; 33 knots; 100,000 S.H.P.

Destroyers. U.S. "Gearing," 2,400 tons; six 5 in. guns; 35 knots; 60,000 S.H.P. U.S. "Sumner," 2,200 tons; six 5 in. guns; 36 knots; 60,000 S.H.P. British "Battleaxe," 1,980 tons; four 4 in. guns; 31 knots; 40,000 S.H.P. British "Jutland," 2,400 tons; five 4·5 in. guns; 31 knots; 50,000 S.H.P. French "Hoche" (ex-German), 2,660 tons; four 6 in. guns; 36·5 knots; 70,000 S.H.P. Swedish "Öland," 1,880 tons; four 4·7 in. guns; 35 knots; 44,000 S.H.P.

Submarines. U.S. "Balao," 1,526 tons; two 5 in. guns; ten 21 in. torpedo tubes; surface speed 21 knots; 6,500 B.H.P. British "Amphion," 1,120 tons; one 4 in. gun; ten 21 in. torpedo tubes; 18 knots; 4,300 B.H.P. Russian (ex-German type), 1,600 tons; light guns; six torpedo tubes; 15 knots; 4,800 B.H.P. (R. V. B. B.)

NEHRU, PANDIT JAWAHARLAL, Indian statesman (b. Allahabad, Nov. 14, 1889), was one of the leaders of the Indian independence movement and on Aug. 15, 1947, became the first prime minister of the dominion of India. (For his career see *Encyclopædia Britannica* and *Britannica Book of the Year 1949.*)

In April 1949 he attended the Commonwealth conference at which a solution was found whereby India could become a republic and at the same time remain within the Commonwealth. Pandit Nehru described the decisions of the conference as "good for India, the Commonwealth and the world." On April 28 he visited Dublin, where he was received on the floor of the Dail, and then went to Switzerland where at Berne on May 5 he ratified the Indo-Swiss treaty of friendship which had been signed in New Delhi in Aug. 1948. Addressing the Delhi provincial political conference on June 19 he announced that it had tentatively been decided that India should be declared a republic on Jan. 26, 1950. He broadcast on June 29 on India's food situation and urged the nation to co-operate in a "mighty drive for food production." After outbreaks of violence in Calcutta, he paid a three-day visit to West Bengal in July. The dispute with Pakistan over Kashmir reached a climax in September; and Pandit Nehru expressed surprise at letters from Clement Attlee and President Harry S. Truman and again claimed that Kashmir was part of India (*q.v.*). In October he went to the United States and Canada at the invitation of the two governments and also visited London. He returned to Bombay on Nov. 14. On May 23 at Dak Pathar he laid the foundation stone of the first river valley project in United Provinces, known as the Yamuna hydro-electric scheme.

NEPAL. An independent kingdom in the Himalayas, lying between India and Tibet. Area: *c.* 54,000 sq. mi. Pop. (1948 est.): *c.* 6,910,000. The aboriginal stock is Mongolian with an important admixture of Hindu blood. Languages: the Gorkhalis, or Gurkhas, speak Parbatia which is of Sanskrit origin; the Bothias use Tibetan; the Newars, who came from southern India, speak Gubhajius, which resembles Tibetan but is interspersed with many Sanskrit words. Religion: Buddhism mixed with Hinduism. Capital: Kathmandu (pop., *c.* 110,000). The ruling family are Hindu Rajputs. All power is in the hands of the prime minister, to whom it was permanently delegated by the king in 1867. Ruler; Maharajadhiraja Tribhubana Bir Bikram Jung Bahadur; prime minister and supreme commander in chief, Sir Mohan Shumshere Jung Bahadur Rana.

History. Constitutional reforms of a minor character had been introduced but in 1949 power was still wielded by a hereditary prime minister. The policy of isolation was little changed. There was still no modern industry and no railway link with the outside world. Schemes of development were, however, under consideration. An outstanding event was the landing of an aircraft at Kathmandu. A movement for popular reform in the state was receiving support from the Indian Congress party and an appeal was made by Nepalese agitators to Pandit Nehru imploring him to intervene. Some sympathy was given to it by the Nepalese domiciled in India, estimated at two millions. (W. Bn.)



Shanker Shumshere Jung Bahadur Rana, the Nepalese ambassador to France, after presenting his credentials to President Vincent Auriol, Nov. 1949.

Foreign Trade. (1944-45) Imports 32,520,000 Nep. rupees; exports 37,376,000 Nep. rupees. Principal imports: cattle, sheep, goats, salt, spices, sugar, tobacco, drugs and dyes. Principal exports: cattle, hides and skins, opium and drugs, gums, resins and dyes.

Transport and Communications. Roads (1949): 237 mi. suitable for motor vehicles. Licensed motor vehicles (Dec. 1948): cars 227, commercial motor vehicles 88.

Finance and Banking. Estimated gross revenue 12,500,000 Nepal rupees. Monetary unit: Nepal *rupee* with an exchange rate (Dec. 1949) of 13·37 Nepal rupees to the pound.

NERVOUS SYSTEM. Research in nervous and mental diseases in 1949 had good results with regard to Parkinsonian syndromes and convulsive diseases. Two synthetic drugs, artane and tridione, were intensively used on patients. Artane (tri-hexyphenidyl), and antispasmodic, was used primarily in the treatment of all forms of Parkinsonian-like diseases—conditions caused by an infection of the brain (encephalitis) or disturbances of the blood vessels of the brain (vascular). The drug was found to stop or reduce the tremor found in nearly all cases of Parkinsonian syndromes. Other symptoms, rigidity and weakness were only relieved occasionally. Fortunately toxic effects were not often produced by this new drug. Tridione (tri-methyl-oxazolidine-dione) was used in 1949 in the treatment of petit mal epilepsy (a momentary lapse of consciousness). Treatment of this condition had previously been disappointing, but tridione was found to arrest or stop the petit mal attacks. Its use, however, was found to cause harmful or toxic effects on the white corpuscles of the patient's blood. The white

blood cells were reduced in number at first and then altered so that an increase in the lymphocytes and a decrease in the polymorpho-nuclear leucocytes resulted. Tridione was found to produce glare phenomenon, decreased day vision, macropsia, drowsiness, epigastric distress, headache, skin rashes and swellings of the eyelids, lips and many other regions. When such symptoms developed, the drug was eliminated and in all cases the symptoms vanished. If the drug was not stopped early agranulocytosis (diminished white blood cells) might develop and cause death; three deaths were reported. Although the toxic reactions were found in a small number of cases tridione was highly recommended.

Cortisone (compound E) was another new substance that was found to have a definite value in the care of nervous and mental diseases. The drug could improve the mental capacity of the patient as well as give him a sense of well-being. Such help was often needed by patients who were afflicted with a debilitating disease. The drug was also found to be exceedingly helpful in myasthenia gravis when given with neostigmine. (*See* also PSYCHOSOMATIC MEDICINE.)

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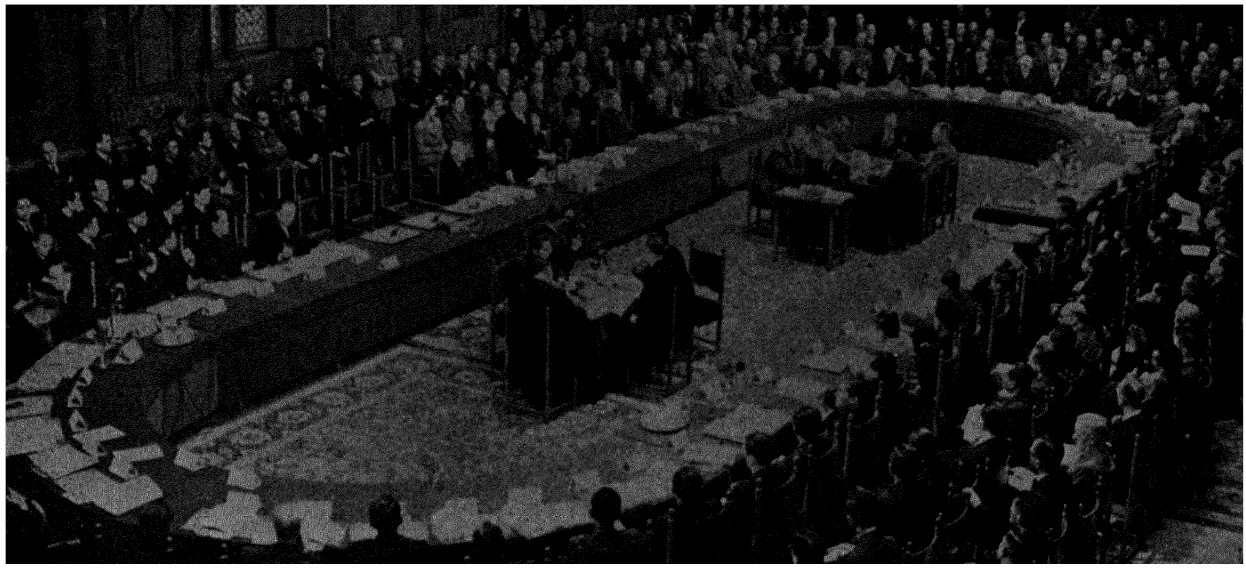
NETHERLANDS. A kingdom of northwest Europe, bounded on the north and west by the North sea, on the east by Germany and on the south by Belgium. Area: 12,868 sq. mi. (not including the waterways and sheets of water larger than 185 ac. and minor acquisitions along the German frontier). Pop. (July 1, 1949, est.): 9,955,394. Language: Dutch. Religion (May 1947): Roman Catholic 38·50%, Dutch Reformed 31·03%, Reformed Churches 7·93%, non-church members 17·04%. Chief towns (pop. July 1, 1949, est.): Amsterdam (cap., 832,583); Rotterdam (671,901); The Hague (555,339); Utrecht (191,811); Haarlem (161,380); Eindhoven (139,320). Ruler, Queen Juliana; prime minister, Willem Drees; minister of foreign affairs, Dr. Dirk Uipko Stikker (*q.v.*).

History. At the beginning of the year the country was the object of world attention and criticism on account of the government's decision to resume military operations in Indonesia on Dec. 18, 1948, and the Indonesian question (*see* NETHERLANDS OVERSEAS TERRITORIES) remained in the forefront throughout the year. It led, following the resolution of the United Nations Security council of Jan. 28, to the resignation on Feb. 14 of Dr. E. M. J. A. Sassen, minister of overseas territories, and later, after the government's acceptance of the van Royen-Roem statements of May 7, which provided, *inter alia*, for the return of the republican government to its seat at Djokjakarta, to the resignation of the first high commissioner of the crown in Indonesia, Dr. L. J. M. Beel, and his replacement, on June 2, by A. H. J. Lovink. From Aug. 23 to Nov. 2, The Hague was the scene of the round table conference between Dutch and Indonesian representatives, with observers of the U.N. Commission for Indonesia in attendance. At this conference agreement was reached on the charter transferring sovereignty to the new republic of the United States of Indonesia, on the statute of union between the kingdom of the Netherlands and the new republic and on a number of technical regulations arising out of the transfer. The ceremonial transfer of sovereignty took place in the royal palace at Amsterdam on Dec. 27. In view of the close ties uniting the Netherlands to its far eastern territories in past centuries, changes so fundamental were likely to have marked repercussions in the home country.

The year saw further important developments in the country's postwar participation in European and world affairs. It was a signatory of the North Atlantic treaty (*q.v.*), concluded at Washington on April 4 and approved by the Lower and Upper Chambers on July 19 and Aug. 4, respectively; while in September the minister of foreign affairs, Dr. D. U. Stikker, attended the first meeting of the North Atlantic council. On May 5 the country was likewise a signatory of the statute of the Council of Europe (*q.v.*) and took part in the first meeting of the new council's assembly at Strasbourg during August and September and in the meeting of the committee of ministers in Paris in November. As a member of the Brussels treaty, it sent delegates and experts to the various Western Union conferences held during the year, while, in the summer, units of the armed forces participated in the five powers' combined fleet and air manoeuvres. That these commitments, however, imposed



Willem Drees, prime minister of the Netherlands, addressing the round table conference at The Hague, which evolved a new status for Indonesia. The conference opened on Aug. 23, 1949, and continued until Nov. 2.

heavy burdens on a country still struggling to recover from World War II was shown in the budget estimates for 1950, which provided no less than Fl.1,901 million, more than half the estimated total expenditure, for military purposes, repair of war damage and national debt payments. The maximum expectation of Marshall aid for 1949-50 was $258·1 million. In November an additional $37·5 million was granted for Indonesia up to Dec 31, after the ban on this aid was lifted following the successful conclusion of the round table conference. On July 11, it was agreed with the U.S. that Fl.240 million should be made available from the special E.R.P. local currency account to finance four important building and drainage schemes, and, in the same month, a U.S. loan of $15 million was arranged through the International bank for the purchase of vital factory plant abroad.

Despite the serious technical difficulties involved, the immediate Benelux goal of full economic union between the Netherlands, Belgium and Luxembourg was neared during the year. At the conference in March at The Hague, July 1, 1950, was fixed as the date on which this union would become a reality; and at Luxembourg in October agreement was reached on the last preparatory steps to be taken. The "pre-union," originally planned for July 1, whereby restrictions on the exchange of certain goods between the three countries were removed, came into operation on Oct. 17. Discussions were also begun between experts from the Benelux countries and France and Italy concerning an integration of all five national economies.

As a result of American aid, Benelux and the nation's own efforts, visible progress was made during the year towards economic recovery. On Sept. 20 the minister of finance presented for 1950 what was, with the exception of the capital expenditure section, the first balanced budget since World War II. On the same day he announced a 30·5% devaluation of the guilder in terms of the dollar, as a consequence of a similar devaluation of the British pound. The rationing of all consumers' goods, apart from coffee and fuel, ceased on Nov. 6.

Yet, despite these improvements, the government warned that great effort and sacrifice and a larger measure of industrialization were required if the country was to solve the difficulties ahead, difficulties accentuated by growing competition in the export market and the rapid increase of the home population. Since the turn of the century the latter had doubled itself, reaching 10 million early in October, while the death rate for 1948 had achieved the world record figure of only 7·4 per thousand.

On April 23 twenty minor adjustments were made to the eastern frontier, whereby the Netherlands acquired about 27 sq. mi. of territory, inhabited by 9,404 Germans. The corrections—agreed upon by the six western powers on March 26, 1949—were of an interim character pending the peace treaty with Germany and were designed to remove anomalies in communications and to facilitate customs control.

Local government elections were held in June. The results reflected the slight shift to the Right observed in the general elections of the previous year and again mainly at the expense of the Communist party. (J. T. BY.)

Education. (1947) Elementary schools 7,936, pupils 1,293,000, teachers 39,050, secondary schools 446, pupils 100,960, teachers 6,121; technical schools, 797, pupils 194,837, teachers 8,567; training colleges 88, students 6,552, teachers 1,006; agricultural schools (1946) 192, pupils 42,851; universities and institutions of higher education 10, students 25,036, professors and lecturers 769.

Agriculture and Fisheries. Main crops (1948, in '000 metric tons, 1949 estimates in brackets): wheat 305 (325); barley 138; oats 316, rye 382 (375); potatoes 5,870; sugar (raw value), 281, dry peas 32, flax fibre 18 3; linseed 15; rapeseed 27. Livestock (in '000 head, May 1948): cattle 2,313, sheep 425; pigs 871; horses 334; hens 17,405. Fisheries: total catch (1948): weight 257,870 metric tons; value Fl.89,746,000. Production (1948, in metric tons): milk 4,488,000; butter 70,956; cheese 96,828; sugar 455,880; meat 168,000.

Industry. Industrial establishments (Dec 1948) 9,230; persons employed 773,527. Fuel and power (1948, 1949, six months, in brackets): coal (in '000 metric tons) 11,033 (5,684), manufactured gas delivered (in '000 cu. ft.) 49,723 (25,850), electricity (in million kwh.) 4,132 (2,239); crude oil (in '000 metric tons) 495 (301). Raw materials (1948, in '000 metric tons). pig iron 441; iron castings 132, steel castings 8; steel ingots 200, salt 250. Manufactured goods (1948, in '000 metric tons) tobacco (cut) 8·3, cigarettes (in millions) 5,317·6; paper 288; cotton yarn 47 8; woollen yarn 26·0; rayon yarn 16·0, rayon fibre 9 8; cement 588, building bricks (in millions) 972

Foreign Trade. (Million florins). Imports. (1948) 4,966; (1949, six months) 2,669. Exports (1948) 2,718; (1949, six months) 1,708.

Transport and Communications. Roads (1949). 9,320 mi Licensed motor vehicles (Dec 1948). cars 103,000, commercial motor vehicles 87,500 Railways (1948): 2,083 mi., passenger-mi 4,273 million; goods traffic ('000 metric tons) 18,312 Shipping (Jan. 1949): number of merchant vessels 965, total gross tonnage 2,558,566. Air transport (1948): '000 mi flown 21,056, passenger-mi 402 million, cargo, including mail, net ton-mi. 15 million. Telephones (1947) 575,995.

Finance and Banking. (Million florins) Budget: (1949 est.) revenue 4,004, expenditure 4,299; (1950 est.) revenue 3,520, expenditure 3,500. National debt (Jan. 1948). 21,586. Currency circulation (Aug. 1949; in brackets Aug 1948) 3,073 (3,117) Gold reserve (Sept 1949; in brackets Sept. 1948) 162 (174) million U S dollars. Bank deposits (Aug 1949, in brackets Aug 1948) 4,199 (4,152) Monetary unit: *florin* or *guilder* with an exchange rate (Dec. 1949; in brackets Dec. 1948) of 10 64 (10 69) florins to the pound

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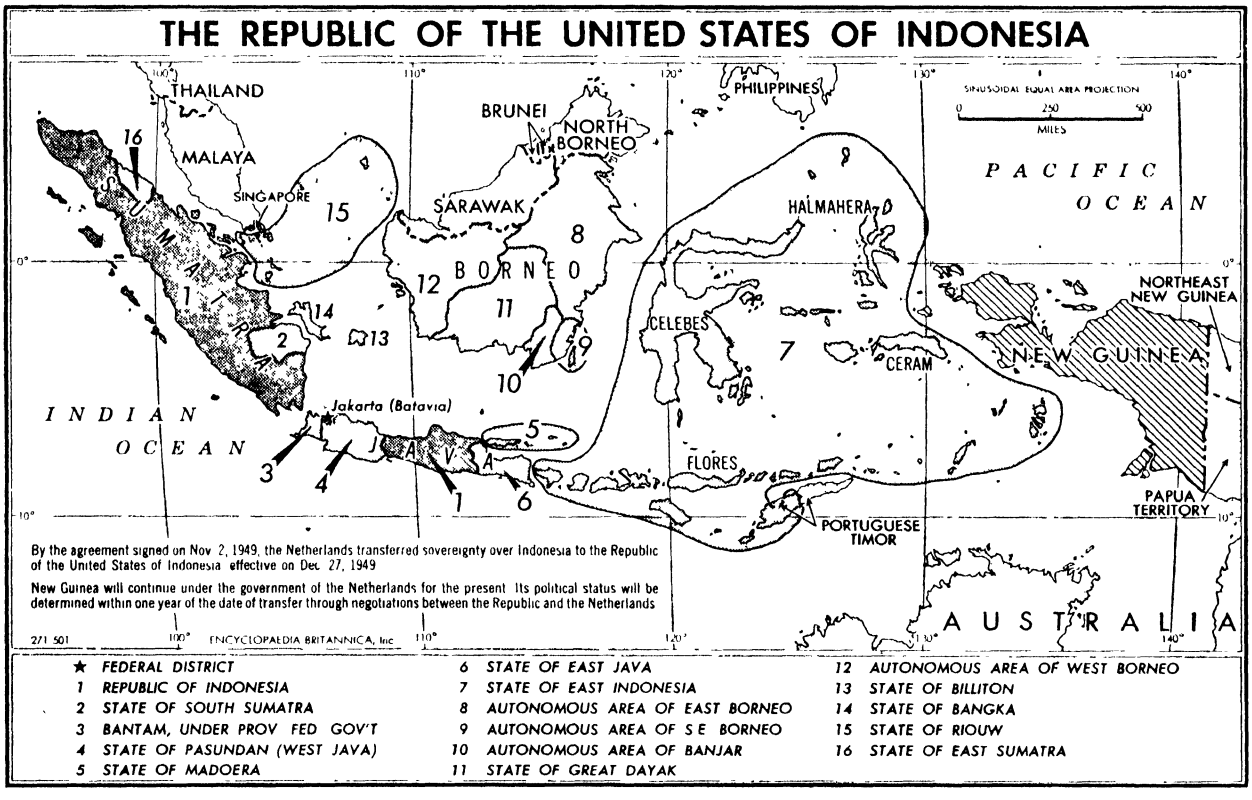
NETHERLANDS OVERSEAS TERRITORIES.

Under this heading are grouped the overseas territories whose names were formally changed (on Sept. 20, 1948) to "Indonesia," "Surinam," and the "Netherlands Antilles" respectively. Their total area is approximately 789,694 sq. mi. and the total population 71,903,700.

Indonesia. The archipelago called Indonesia and comprising the territory of the former Netherlands East Indies, stretches 3,000 mi. from east to west and 1,300 mi. from north to south, between 6°N. and 11°S and from 95° to 141°E. It includes the islands of Sumatra, Java, Celebes and Borneo (whose northern part is under British rule), and many smaller islands, together with the western half of New Guinea. Total area: *c.* 735,000 sq. mi.; total pop. (1941 est.) 71,534,000, all but 2·6% of them being indigenous (Java 40 million, Sumatra 8 million, Celebes 4 million, Dutch Borneo 2·5 million). Chief towns (pop., 1930 census): Batavia (cap., 435,184; [mid-1949 est.] 1,200,000); Soerabaja (341,675); Semarang (217,796); Bandoeng (166,815); Soerakarta or Solo (165,484); Djokjakarta (139,649) Languages: Malay is to a certain extent a language of inter-communication between different population groups speaking 25 main languages and 250 dialects; Dutch is also spoken by educated Indonesians. Religions: Moslem *c.* 90%, Christians 3·4%, Hindu 1 4%. High commissioners of the Crown in 1949: Dr. Louis J. M Beel, (after June 2) Anthony H. J. Lovink and (after Dec. 27) Dr. H. M. Hirschfeld.

History. The second police action of the Netherlands military forces intended to curb the Indonesian republic having achieved its aims in the course of a few days, hostilities ceased in Java on Jan. 1, 1949, and in Sumatra on Jan. 6, 1949. Deprived of its remaining territory, which was almost entirely occupied by the Dutch, of its various armed formations which were scattered and of its leaders who had been removed elsewhere, the Indonesian republic virtually ceased to exist. And with it disappeared the uncompromising spirit in which the Republicans competed with the Federalists for the inheritance of power in the archipelago.

In Jan. 1949, however, the government of India summoned a conference of Asiatic countries to New Delhi, where the Dutch action in Indonesia was sharply condemned and a resolution was passed calling for the restoration of the *status ante quo* in Indonesia. The U.S. representative on the United Nations Security council sponsored a resolution, passed on Jan. 28, enjoining the Netherlands to withdraw its



troops from former republican areas in Java and Sumatra, to release the captured leaders and to restore the government of the republic at Djokjakarta

Faced with this grave development on the one hand and its inalienable responsibilities as the recognized sovereign power in Indonesia on the other, the Netherlands government chose to make it clear that it had to reject this intervention. The consequence of this attitude soon assumed alarming aspects, as in reply to the Netherlands refusal to yield to the Security council's injunctions, sanctions and suspension of aid under the European Recovery programme were adumbrated. To break the deadlock, Canada's representative in the Security council tabled some constructive suggestions in March, which proved to be acceptable to the Dutch and which were finally embodied in the council's " ruling " of March 24. The ruling combined the operative part of the Security council's Jan. 28 resolution with the recommendations that the republic, if it were to be restored, should in future undertake to co-operate towards an effective cessation of hostilities in Indonesia and should, furthermore, be prepared to take part, together with the Netherlands and the Federalists, in a round table conference at The Hague, which was to provide for a peaceful and lasting settlement of the Indonesian problem. The Dutch forthwith concurred with the Canadian ruling, and from then on developments moved with noticeable rapidity. On May 7 the leaders of the Dutch and Republican delegations, negotiating on the newly recommended basis of compromise, announced that agreement in principle had been reached. On June 22 a meeting of the heads of the delegations was brought about regarding a method to effectuate the cessation of hostilities (it took effect on Aug. 10 in Java and on Aug. 14 in Sumatra). Thereupon the evacuation of Djokjakarta and surrounding districts by the Netherlands troops took place on June 24, and on July 6 the reconstructed Republican government was allowed to return to its former capital.

Meanwhile the governments of the Indonesian federal states, who welcomed the new policy of compromise and who had contributed their influence to bring it about, took steps to safeguard their own positions. An inter-Indonesian conference was held, bringing together Federalists and Republicans for the purpose of exploring the possibilities of a common policy to guide their respective delegations at the forthcoming round table conference. The inter-Indonesian conference ended in Batavia on Aug. 2 on a note of complete harmony, which covered amongst other things recognition of the federal structure of Indonesia as a basic conception of the new constitutional system.

The round table conference thus opened in The Hague on Aug. 23 in a favourable atmosphere which prevailed to the end, notwithstanding occasional clashes. Some part of this success might be attributed to the U.N. Commission for Indonesia, which attended throughout the conference and towards the end arbitrated in several delicate cases. On Nov. 2 the round table conference ended with a solemn plenary session in the mediaeval Hall of the Knights at The Hague, where the completion of its business was announced and the documents were signed by the three delegations, Netherlands, Republican and Federalist, certifying agreement on the following main subjects:

1 The charter of transfer by the kingdom of the Netherlands of sovereignty over Indonesia to the republic of the United States of Indonesia, to be effected not later than Dec 30, 1949. (It was also agreed that the Netherlands kingdom should retain sovereignty over the Dutch part of New Guinea [area 152,089 sq mi] for the time being, on which a further decision would have to be negotiated within one year)

2 The statute of the union to be concluded between the Netherlands and Indonesia The union, under the Queen of the Netherlands would have to assure the co-operation of the partners in the field of their common interests through ministerial conferences twice yearly Attached to this statute was a joint declaration on fundamental human rights and liberties followed by a series of agreements, some of them in detail, on the principal subjects of future co-operation - foreign relations, defence, financial and economic matters (rights, concessions and enterprises, financial and monetary conditions, commercial policy, public indebtedness of the former Netherlands Indies) and cultural interests

3 An agreement on the transition period covering a great many problems arising out of the change from the old to the new constitutional order (citizenship and nationality, position and rights of civil servants, military questions, such as the withdrawal of Netherlands naval, land and air forces and the setting up of a Netherlands military mission to assist the new government of Indonesia to build up sea, land and air forces of its own)

All the above mentioned agreements and various protocols accompanying them required ratification by the Netherlands parliament and by the representative bodies of the federal states and the republic of Indonesia respectively.

The Netherlands government was the first to initiate proceedings of ratification. The first reaction of parliament was not directly favourable, the lack of precision and the absence of guarantees for the fulfilment of the agreements being amongst their main objections. Simultaneously with the end of the round table conference security conditions in several parts of Java showed a marked deterioration; and the question as to how law and order were to be maintained after the withdrawal of the Dutch troops did not fail to give rise to anxiety. It was to be foreseen, however, that both the Netherlands parliament and the Indonesian representative bodies on the other hand would realize that a rejection of the results of the round table conference would create an impossible and untenable situation and that under the circumstances trust in the good faith of all parties concerned in carrying out the agreements according to the spirit rather than to the letter, might be justified by future events.

While the round table conference was still in progress, the Republican and Federalist delegations in The Hague reached complete agreement on a preliminary constitution for the republic of the United States of Indonesia, based on the principles of federalism and parliamentary democracy, which would remain in effect until a constituent assembly, scheduled to convene within one year's time, should pass a final text. On the basis of this constitution, the Indonesians made preparations for the transfer of sovereignty. Ahmed Sukarno (*q.v.*) was elected on Dec. 15, at Djokjakarta, by representatives of the Indonesian states to be the president of the republic and the first all-Indonesian cabinet was formed with Mohammed Hatta as prime minister.

The round table conference agreements were ratified by both houses of parliament in Holland and by the representative assemblies of the Indonesian states in the course of the first few weeks of December. On Dec. 27 the solemn transfer of sovereignty by the Queen of the Netherlands to an Indonesian delegation headed by premier Hatta took place at Amsterdam, the capital of the Netherlands, while simultaneously in Batavia (renamed Jakarta) the high commissioner of the Crown, last representative of Netherlands constitutional authority in Indonesia, handed over the reins of government to President Sukarno. The rule of the Netherlands kingdom in Indonesia had come to an end, and under a darkening political sky spreading over southeast Asia the new republic faced the uncertainties of the future. (*See* also INDONESIA, REPUBLIC OF THE UNITED STATES OF.) (W. G. P.)

Education. Schools (1940, public and private together). village schools 17,718, teachers 35,163, pupils 1,896,000; primary Indonesian 354, teachers 2,331, pupils 82,935, primary European 292, teachers 1,611, pupils 47,282, primary Chinese 110, teachers 707, pupils 25,696, higher elementary Indonesian 2,783, teachers 8,394, pupils 296,885; secondary 41, teachers 542, pupils 8,686; University of Batavia, teaching staff 125, students 1,246 Illiteracy (1940) 58 7%. The only postwar figures, excluding the republic of Indonesia, were as follows (1948). elementary schools 12,000, pupils 3,000,000; secondary schools 47, pupils 6,500

Foreign Trade.

	Imports		Exports	
	Weight ('000 metric tons)	Value (million guilders)	Weight ('000 metric tons)	Value (million guilders)
1938 . .	2,002 0	497 4	11,030·0	714 3
1947 . .	909 4	754·0	1,216 0	346 6
1948 . .	2,117 0	1,155·0	5,185 3	1,040·4
1949 (six months)	1,429 0	786·6	4,067 9	763 5

PRINCIPAL EXPORTS ('000 metric tons)

	1938	*1947*	*1948*
Mineral oil products	6,067 4	771 0	3,848 0
Sugar	1,077 8	1 7	63 9
Copra	556 5	152 6	242 2
Rubber	331 2	85 0	279·8
Palm oil	255 7	2 3	39 9
Tea	71 9	3 2	9 4
Pepper	54 5	–	– –
Tobacco	47 9	2 2	1 1
Tin and tin ore	26 5	21 7	46 3

Chief destinations of exports were (1948, million guilders) the Netherlands 375 1, Singapore and Malaya 197·8; the U S 183 3, Japan 25 4, the U K 21 0. Chief source of imports were the U.S., the Netherlands, the U.K and Singapore and Malaya.

Agriculture. Main crops (1947, '000 metric tons, Java and Madoera only) rice (paddy) 6,600, maize 1,300, cassava 5,600, sweet potatoes 1,200, ground nuts 130, soya beans 180 Livestock (1947, '000 head): cattle 3,590, sheep 1,640; goats 5,112, pigs 1,162, buffaloes 2,675, horses 620 Fisheries (total catch, 1947) 28,000 metric tons

Transport and Communications. Railways (1947) 1,900 km. Roads (1947): 53,200 km., including metalled 12,600 km Licensed motor vehicles (1947), cars 12,500, lorries 12,100 Shipping regularly serving Indonesia (1947) merchant vessels 154, gross tonnage 757,000

Finance. Budget (million guilders, 1947 est in brackets 1940) revenue 1,034 (743 6), expenditure 2,929 (761 3) National debt was estimated in Dec 1947 at Fl 3,970 million. Currency circulation (Dec 1947): Fl 1,445 million. Until Dec 1949 the monetary unit was Dutch *guilder* or *florin* with an exchange rate of £1 = Fl 10 64 and $1 = Fl 3 80 (Fl 2 65 until Sept 18, 1949)

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Netherlands Antilles. The Netherlands Antilles consist of six islands in the West Indies, with a total area of 403 sq. mi. and a total population (1949 est.) of 160,000, of which about one quarter are aliens. Three islands lie near western Venezuela, Curaçao (210 sq. mi.), Bonaire (95 sq. mi.) and Aruba (69 sq. mi.). The other three islands, sparsely populated, lie 500 mi. to the northeast—the southern portion of St. Martin (17 sq. mi.), St. Eustace (7 sq. mi.) and Saba (5 sq. mi.). The largest city and capital is Willemstad, on the island of Curaçao (pop., 1949 est., 45,000). The official language is Dutch, but a local patois of diverse origin is equally widespread. Religion: mainly Roman Catholic (90%). Governor, L. A. H. Peters.

The first election in the colony too place on March 17, 1949. The National People's party gained 4 of the 8 seats of the island of Curaçao in the Legislature (Staten), and all the 3 seats of Bonaire and the northeastern islands; these 7, with the 5 representatives of the Aruban People's party, set up a coalition. On April 19, the Legislature was officially installed, and the head of the National People's party, M. F. da Costa Gomez, became prime minister. Ill feeling between the Aruba and Curaçao wings of the coalition soon forced the re-organization of the cabinet. After eight weeks of wrangling, at the end of July, there was set up a compromise cabinet, consisting in part of technicians not identified with any party, and presided over by L. C. Kwartsz.

An unusually severe and protracted drought affected Curaçao through the first half of 1949. An ambitious programme of expanding the facilities for increasing the water supply was authorized to be undertaken immediately, in the hope of its completion in two or three years. (C. McG.)

Education. Schools (1949): elementary 47, pupils 15,462; higher elementary 25, pupils 9,592, secondary 1, pupils 133

Economy and Finance. Petroleum refining is the most important industry. There were 3 refineries—Curaçaosche Petroleum Industrie Maatschappij, at Emmastad on Curaçao, and Lago Oil and Transport Co (Standard Oil Co.) and the Eagle Oil Co on Aruba Production of refined petroleum products in 1948 by the first two amounted to 234 million bbl (95% of the total)

Exports in 1948 totalled Fl 766 million, imports Fl 867 million. About 97% of the exports consisted of petroleum products, and 77% of the imports consisted of crude petroleum, almost all of which is brought from Venezuela by shallow-draught tender Total imports of crude petroleum in 1948 amounted to 245 million bbl.

The monetary unit is the Netherlands Antilles guilder or florin, valued at U.S $0·53. Budget (1949 est.). revenue Fl.57,329,511; expenditure Fl.57,267,582. Actual revenue in 1948 was Fl.55,788,497. Public debt (Dec 1, 1949) Fl.4,884,000. Notes in circulation (Dec. 1. 1949): Fl.37 million; gold reserve: Fl 35 million

Surinam (Dutch Guiana). A Netherlands colony in northeastern South America, bounded on the north, east, south and west by the Atlantic ocean, French Guiana, Brazil and British Guiana, respectively. Area: 54,291 sq. mi. Pop. (1948 census): 209,700. In addition to over 80,000 native-born Surinamese and American Indians, principal population groups included 56,000 Asiatic Indians, 35,000 Javanese, 19,000 Negroes and 2,400 Chinese. The capital and chief port is Paramaribo (pop., 1946 est., 71,000). The official language of the colony is Dutch, although English, Javanese, Hindi and Urdu are also spoken. Governor, Willem Huender; from Dec. 2, J. Klaasesz.

Projects designed to secure autonomy for Surinam within the Netherlands empire moved forward during 1949 with less friction than in the previous year. However, some agitation followed the adjournment at Havana, Cuba, on July 21 of a meeting of representatives of the Latin-American republics sponsored by the American Committee on Dependent Territories, which had been established in 1948 by the 9th International Conference of American States. The Havana meeting adopted a resolution requesting a later inter-American conference to call upon the remaining European powers with American possessions to co-operate in (1) granting eventual independence to these holdings and (2) establishing United Nations trusteeship arrangements for colonies found to be incapable of self-government. Meanwhile, the Netherlands government intensified its co-operation with the U.S., the United Kingdom and France through the Caribbean commission (*q.v.*), representing a four-power approach to the problems of Surinam and other dependent territories in the western hemisphere. (G. I. B.)

Education. Schools (Jan 1, 1949): primary 129, teachers 773, pupils 31,463

Economy and Finance. Exports in 1948 totalled Fl 27,371,980, imports Fl 36,172,232. Chief exports bauxite (79%), timber (5%), citrus fruit (5%) and gold (4%). Principal customers were the U S (85%) and the Netherlands (10%), the chief suppliers were the U S. (49%) and the Netherlands (30%) The major economic activity is the extraction of bauxite, most of which is exported to the U S Production in 1948 was 2,186,000 short tons

Actual government revenue in 1948 was Fl 22,147,000 (est 1949: Fl 26,683,000), actual expenditure was Fl.21,120,000 (est 1949. Fl.26,090,000) Notes in circulation (Oct. 1, 1949). Fl 10,683,000; gold reserve. Fl.6,586,649. Monetary unit· Surinam guilder or florin valued at U S. $0 53

NEW CALEDONIA: *see* FRENCH UNION

NEWFOUNDLAND AND LABRADOR. A British island colony of North America, which on March 31, 1949, became the tenth province of the Dominion of Canada. Area: Newfoundland 42,734 sq. mi., Labrador c. 110,000 sq. mi. Pop.: Newfoundland (1945 census) 315,643, (1947 est.) 321,897; Labrador (1947 est.) 5,639. Capital: St. John's (pop., 1947, 57,849). Language: English 99·3%. Religion: Roman Catholic 33%, Church of England 31·4%, United Church 24 9%, Salvation Army 7%, Presbyterian 0 5%, others 3 2%. Last British governor, Sir Gordon Macdonald (left the island on March 5); prime minister, Joseph R. Smallwood.

History. In a referendum in July 1948 Newfoundland decided by 78,323 votes to 71,334 in favour of confederation with Canada as against a return to responsible government. By December the terms were completed. They were ratified by the Dominion parliament on Feb. 18, 1949, and approved by the British parliament on March 16. As from midnight March 31, Newfoundland, including Labrador, became the tenth province, thereby bringing to fruition the plan envisaged in 1864 of consolidating British North America as a political entity within the Empire.

Commission government terminating after a 15 years' tenure, Sir Albert J. Walsh was appointed provisionally lieutenant governor and Joseph R. Smallwood, moving spirit in the confederation campaign, was sworn in as acting premier. In the provincial election on June 27 the Liberals, led by Smallwood, won 21 seats against 5 Progressive-Conservatives and 1 Independent. In the federal contest for seven seats, 5 Liberals and 2 Progressive-Conservatives were elected. The Assembly met on July 12. Relinquishing his office, Sir Albert Walsh was succeeded by Sir Leonard Outerbridge.

Under the confederation agreement Canada assumed Newfoundland's public debt, pursuant to the Loan act of 1933, and took over the sinking fund established under that act. Subject to certain provisions, Newfoundland retained surplus revenue standing to the credit of the exchequer at the date of union. The province was to receive an annual subsidy of $180,000, together with an annual subsidy equal to 80 cents a head of the population in the first ten years, subject to adjustment thereafter, and a further subsidy of $1·1 million in recognition of geographical and other problems peculiar to the province. It was also provided that negotiations should be undertaken for a tax agreement for the rental to the government of Canada of income, corporation income and corporation tax fields and the succession duty tax field. Provision was also made for payment of provisional grants by Canada for 12 years, starting at $6·5 million, and gradually reduced to $350,000. To determine the financial consequences of union, it was arranged that a Royal commission would review the position within eight years. Canada assumed responsibility for the operation of the Newfoundland railway (showing an annual deficit of $2·5 million), including steamship and other marine services; the Newfoundland hotel; postal and telecommunication services; fisheries administration; surveys; shipping aids; marine hospitals, etc.; the broadcasting system; civil aviation, including the Gander airport; defence; veterans' affairs; customs and excise. Jurisdiction over natural resources, public health, education and public works remained with the province. Social securities such as family allowances, old age pensions and unemployment insurance as obtained in Canada were extended to the province. Among other arrangements it was agreed that freight rates on traffic within, into or out of the maritimes should be applicable to the island of Newfoundland.

Newfoundland entered the new era still enjoying the economic prosperity resulting from wartime activities. Fishing, newsprint and mining industries operated at full capacity and exports commanded high prices. Surveys in Labrador revealed iron ore beds exceeding 300 million tons which promised future sources of revenue and employment, and development was being undertaken by Hollingers Consolidated and Hanna company.

Spring operations opened with a highly successful seal fishery, valued at $500,000. A delayed ice blockade in the north hampered the fisheries which, in some sections, were a failure. The currency situation also had an adverse effect on trade and industry. Forest operations were curtailed owing to the loss of the British market for newsprint and sulphite pulp. This, with the fishery setback, left about 10,000 without employment by November. Instead of dole distribution, relief work was organized on a plan whereby the men were paid 55 cents hourly for three days of the week and on the other three gave free labour.

Finance. In the first six months of confederation, revenue totalled $16,696,710 (including federal grant of $4,405,000), expenditure $13,146,362 Family allowances in that period totalled $6,000,000.

Trade. Total trade in 1948 was: exports, $77,839,000; imports, $105,055,000. Fishery products were valued at $29,022,000; pulp and paper, $25,729,000; minerals, $15,760,000. Chief supplying countries: Canada ($54,983,000); U.S.A. ($40,313,000); United Kingdom ($6,228,000). Chief customers: U.S.A. ($26,063,440), United Kingdom ($13,484,942); Canada ($9,732,227).

Communications. Motor cars licensed in 1949 numbered 8,341 (in 1948, 7,343); other vehicles 4,531 (1948, 4,210). With a view to frieght adjustments a Transportation commission heard briefs in October. Surveys for a trans-insular highway began. (C. E. A. J.)

NEW GUINEA: *see* NETHERLANDS OVERSEAS TERRITORIES; PAPUA-NEW GUINEA; TRUST TERRITORIES.

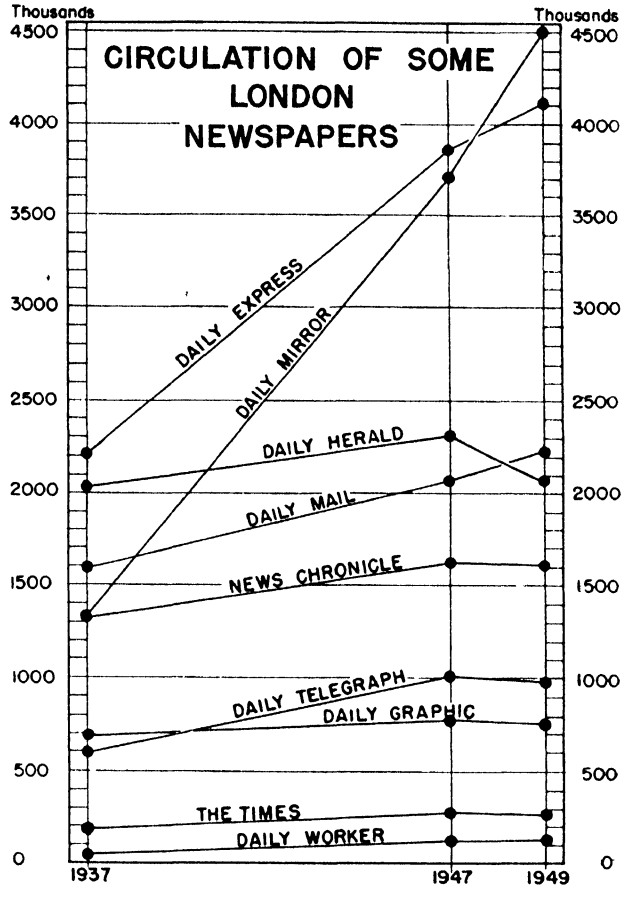
NEW HEBRIDES: *see* BRITISH EMPIRE.

NEWSPAPERS AND MAGAZINES. There was considerable improvement in the supply of newsprint in 1949, with the result that the British press, having been thwarted for so long, was at last given wider scope for its enterprise. Unrestricted sales of newspapers were resumed on Jan. 3, when a more generous allocation of newsprint permitted the penny newspapers to increase their size to a daily average of five pages. Nearly four months later further supplies of paper advanced the number of pages to six and so caused the disappearance of the four-page newspaper, which had been established by government regulation in 1941. With the removal of restrictions on circulations, the non-competitive period ended and newspapers were quick to take advantage of the new conditions. More news was covered and there was keen competition in new features; but although circulations rose there were not the large increases that had been expected.

The sales of daily newspapers rose from 19 million a day before World War II to 29 million, but the consumption of newsprint was much less than in 1938. The equalized price of newsprint at the beginning of 1949 stood at the high price of £42 a ton and this was reduced by stages to £33 5*s.* in October. Approximately 70% of newsprint during the year was home-produced.

The Royal Commission on the Press, which had been appointed in 1947 under the chairmanship of Sir David Ross and cost over £20,000, published its report in June. The report—running to about 100,000 words—vindicated the press on the more exaggerated charges brought against it but criticized certain newspapers for excessive partisanship and distortion of news. The commission's chief recommendation was for the establishment of a voluntary General Council of the Press. This council was to consist of at least 25 members representing proprietors, editors and other journalists and to have a lay membership of up to one-fifth, the total including a paid chairman. The objects of the council as defined by the commission would be "to safeguard the freedom of the press; to encourage the growth of the sense of public responsibility and public service among all engaged in the profession of journalism—that is, in the editorial production of newspapers—whether as directors, editors or other journalists; and to further the proficiency of the profession and the well-being of those who practise it."

Other recommendations were that chain newspapers should be required by law to carry on the front page a formula clearly indicating their common ownership, and that if local monopolies in a considerable area should be found not to be within the purview of the Monopolies commission, the Monopolies and Restrictive Practices act should be amended to bring newspaper monopolies in areas of this size within its scope. The commission found that the case against chain organizations had been overstated; it did not favour state ownership of newspapers; and in stating that the press was free from corruption said that it was generally agreed that the British press was inferior to none in the world.

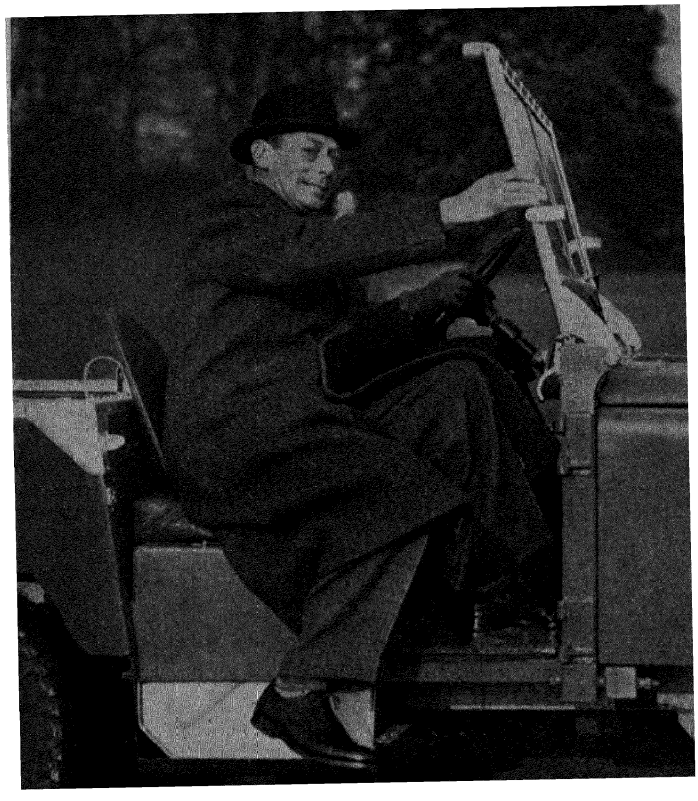


In a subsequent debate in the House of Commons Herbert Morrison, lord president of the council, said that the government accepted the report in general. They favoured the recommendation for a council and hinted that if the press failed to establish a voluntary body a statutory one would be set up. The press itself was not enthusiastic about the council, and although the conference of the Institute of Journalists accepted the idea in principle they wanted adequate safeguards against political and other outside interference. The executive of the National Union of Journalists accepted the proposed constitution of the council "as a working basis." Committees of the Newspaper Proprietors' association and the Newspaper society were examining the recommendations of the commission. The *Daily Express* and *Sunday Express* anticipated any change in the law by adding to their imprint "controlling shareholder Lord Beaverbrook."

The Institute of Journalists voted against supporting proposals for re-opening negotiations with the National Union of Journalists with regard to the fusion of the two bodies.

In March, the editor of the *Daily Mirror* was committed to prison for three months and the company fined £10,000 for contempt of court. The newspaper had published objectionable matter concerning a person who was under a criminal charge. On July 30, the same newspaper, with a circulation of over 4½ million, prominently displayed a statement signed by the editor that it would continue to feature sensational news. "The *Daily Mirror* is a sensational newspaper . . . We shall go on being sensational to the best of our ability." It expressed its opposition to a press council as proposed by the Royal commission.

Expenditure by government departments on advertising in the British press in 1948-49 (estimated) was £1,558,856, and



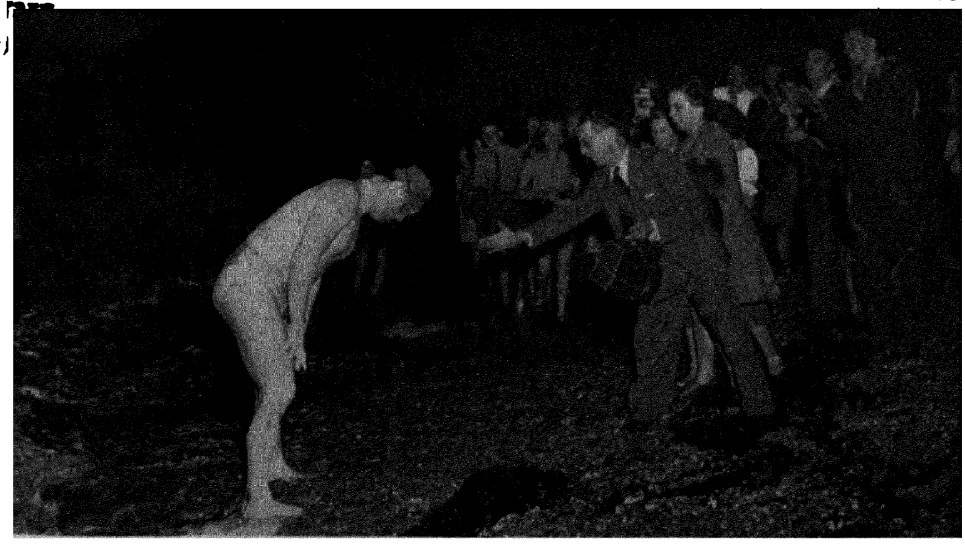
BRITISH NEWS PICTURES of the YEAR

The pictures on these facing pages received awards in the second annual "British News Pictures of the Year" competition sponsored by the "Britannica Book of the Year." The photographs of Ferdinand du Moulin and "Blue Baby Operation" have been selected from the winning portfolio and sequence entries. The competition was judged by Mr. Harold Lewis, editor of "Photography" and of "Photography Year Book," Mr. Percy Harris, F.R.P.S., Mr. Bertram Sinkinson, F.R.P.S., F.I.B.P., Mr. Stanley Devon, and Mr. John Armitage, London editor of "Encyclopædia Britannica."

***NEWS.** His Majesty King George in a Land Rover: by R. H. Palmer of International News Photos (London).*

***SEQUENCE.** After the operation: one of the 21 photographs in the winning sequence entitled "Blue Baby Operation" by E. G. Mandaline of "Illustrated" (London).*





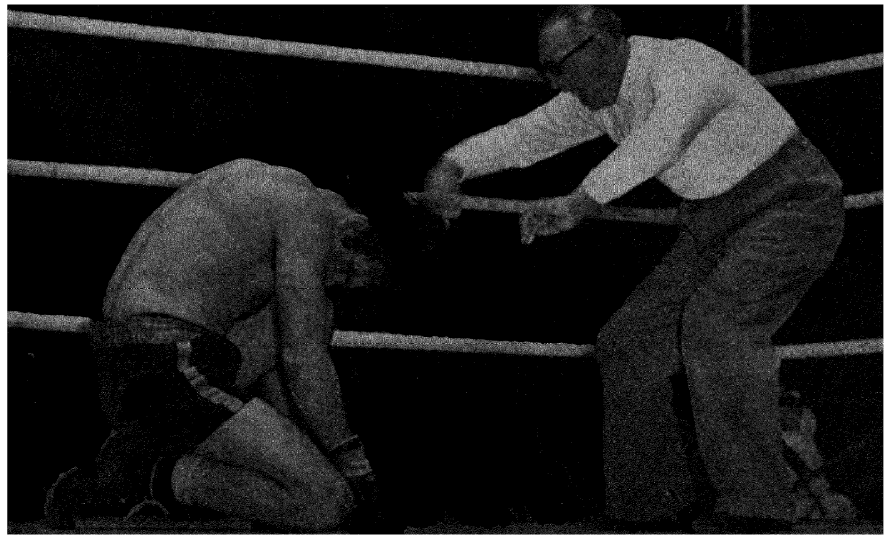
PORTFOLIO. Ferdinand du Moulin at Dover after swimming the English Channel: one of the ten photographs in the winning portfolio by Robert Rider-Rider of Associated Press (London). The winner in this category is accorded the title "British News Photographer of 1949."



FEATURE. The chorus dressing room of the show "Folies Bergère" at the London Hippodrome theatre: by P. Waugh of "Illustrated" (London).

SPORT. Freddie Mills being counted out at the end of his championship fight with Bruce Woodcock in June 1949: by Roy Illingworth of P.A.-Reuter Photos (London).

More than 1,800 pictures were entered by 202 British press photographers. Entries were accepted from 32 centres in the British Isles, and for the first time one of the awards went to a provincial cameraman—the third prize in the news category to B. Hess of the "Birmingham Gazette." In addition to the five categories illustrated on these pages there was a sixth for colour entries. First prize in this section was awarded to R. Westwood of "Illustrated" (London) for his photograph of Margaret Leighton.





"*How Fleet Street looked to Vicky yesterday after the press commission's report*," *published in the "News Chronicle" (London), July 1, 1949.*

included £3,925 in the *Daily Worker*, the Communist newspaper. A gradual reduction of government advertising was evident towards the end of the year.

A new company was formed to acquire all the share capital of W. H. Smith and Son, Ltd., the newsagents and booksellers. The vendors were the executors of Viscount Hambleden and the offer was made to meet estate duty assessed at about £6 million. The share issue of some £6½ million was over-subscribed. The company decided to extend its activities to Canada and to form a new company for this purpose.

The Times announced that its air edition, which made its first appearance in 1944, had attained a world circulation. The paper was available in most places in Europe on the day of issue; New York, west Africa, Egypt and the Sudan on the following day; and south and east Africa two days after leaving London. Over 14,000 copies were flown to readers abroad daily.

The Newspaper Press Directory, published since 1846 by C. Mitchell and Co., Ltd., was acquired by Benn Brothers, Ltd. In the first issue under the new proprietorship the number of publications recorded as then appearing in Great Britain and in Ireland was, dailies—morning 56, evening 88; Sunday newspapers 17; and weekly newspapers 1,391.

After a small paper increase in March the periodicals were granted a 50% increase on current supplies at the beginning of July. This brought the maximum permitted consumption up to 70% of the amount used before World War II. Even after this increase, public demand for some of the more popular periodicals was so great that the sales again had to be limited. New periodicals included *British Farm Mechanization; World Crops; Journal of African Administration; Corona*, the journal of the colonial service; the *Cornish Review;* and *Archives*, the journal of the British Records association.

Among the appointments announced during the year were those of W. Vaughan Reynolds as editor of the *Birmingham Post* in succession to T. W. Hutton; B. C. Canter as editor of *The Friend*, the Quaker weekly; A. Woodward as editor of the *Yorkshire Evening Post;* J. R. Campbell as editor of the *Daily Worker;* F. Mathew as manager of *The Times* in succession to C. S. Kent; A. C. Duncan as chairman of Odhams Press; and W. Surrey Dane as chairman of Daily Herald, Ltd.

The long list of journalists and newspapermen who died during the year included, among other notable names, those of Sir Malcolm Fraser, a former editor of the *Evening Standard;* Sir Charles Igglesden, editor of the *Kentish Express* for some 68 years; Sir John Hammerton, who had edited several provincial newspapers and many popular works of reference; Sir William Bailey, president of the Newspaper society, 1939-46; Sir Fabian Ware, editor of the *Morning Post*, 1905-11; J. R. Scott, chairman and governing director of the *Manchester Guardian* and *Manchester Evening News;* Sir Errol Knox, an outstanding figure in Australian journalism; Robert Lynd, for many years literary editor of the *News Chronicle;* A. G. Cousins, chairman of the *Daily Herald* and of Odhams Press; J. L. Hammond, the well-known historian, who had a distinguished career as a journalist on liberal newspapers; H. Russell, night editor of *The Times;* E. Oldmeadow, editor of the *Tablet*, 1932-36; Dr. Albert Peel, founder and for 23 years editor of the *Congregational Quarterly;* and William Rust, editor of the *Daily Worker.*

Commonwealth. The price of all South African daily newspapers was increased from 2*d.* to 3*d.* on Dec. 1. At the beginning of the year newspapers in Australia were freed from restrictions on newsprint and from price control of advertisement rates for the first time in 10 years. Daily Mirror Newspapers, Ltd., and Sunday Pictorial Newspapers (1920), Ltd., bought a controlling interest in the Melbourne *Argus* and the *Australasian Post.* The *Sydney Morning Herald* began publication of a Sunday edition, which within six months had attained a circulation of 270,000.

P. D. Ross, who had controlled the Ottawa *Journal* for over 60 years, sold his shares to E. Norman Smith, vice-president of the company, and M. Grattan O'Leary, associate editor. These two transferred blocks of shares to other members of the staff who thus obtained a proprietary interest in and control of the *Journal.* The London (Ontario) *Free Press* celebrated its centenary, with a special edition of 232 pages which was claimed as the largest newspaper ever printed in Canada.

In Cyprus the editor of the Communist newspaper *Democratis* was sentenced to three months' imprisonment for publishing a seditious article. The paper was suspended for three months and fines were imposed on the company and the printer. The editor of a rightist paper in Cyprus was also sentenced to imprisonment for three months for libel. In the Gold Coast an owner and editor was fined for contempt of court; and two other editors received hard labour sentences for publishing seditious libels. The *Bulletin*, an English-language newspaper in Malta, edited by J. J. Scorey, was suspended for four days. The editor was convicted on charges arising out of a report which was alleged to have brought the governor "into hatred and contempt." In reply to complaints that colonial governors possessed excessive powers which endangered the freedom principle, the Empire Press union undertook a general survey of the laws affecting newspapers in the colonies.

An agreement was concluded which made the newspapers of India joint owners, with Great Britain, Australia and New Zealand, of Reuters, Ltd. Two new newspapers made their appearance in Bombay, the *Evening Star* and *Bharat;* the

city then had nine English-language dailies. An American syndicate was formed to purchase newspapers in India and other Asiatic countries. Its first acquisition was the *Civil and Military Gazette* (published in Lahore and Karachi), on which Rudyard Kipling once served as a sub-editor. The Parkistan government announced its intention to introduce legislation to regulate the ownership and editorship of Pakistani newspapers by foreigners.

Europe. The year saw some important developments in Western Germany. In 1946, when certain newspapers were licensed by the occupying powers, none of the ex-nazi dailies were allowed to appear but several of their owners were permitted to continue as printers. When, in Sept. 1949, the Allies gave up their licensing control over the German press it was feared that many of the pro-nazi newspapers would re-emerge. Some local sheets with nazi associations did in fact appear in anticipation of the ending of licensing but these were suppressed by the British authorities. In the American zone it was said that of the 106 newspapers due to start on Sept. 1 80% would be "chauvinistic, rabble-rousing, anti-democratic, anti-Semitic and anti-American." An organization was set up in all three western zones to finance new papers in opposition to the established licensed press. A new press association, with hopes of 600 member-papers, was formed in opposition to the one set up under Allied supervision. The democratic press very soon felt the strain of competition and there was a general decline in circulations—*Die Welt*, Hamburg, the official British German-language newspaper, dropped from nearly one million to 500,000. A law was passed by the Allied high commission, which replaced the military government, giving the high commissioners power to act in cases of printed statements derogatory to the occupation powers or which might display the nazi spirit The high commissioners made it clear, however, that it was the duty in the first place of the West German federal government to see that the democratic principles were not violated and that the freedom of the press was preserved.

Pressure in the "iron curtain" countries continued as before. Godfrey Lias, Prague correspondent of *The Times*, and John Fisher, an Australian journalist, left Czechoslovakia at the request of the Czechoslovak government. In Finland a printers' strike in March stopped all except the Communist and Social Democrat newspapers for nearly three weeks. Roman Catholic printing offices in Poland were placed under state control so that nearly all Catholic newspapers in Poland were printed on state-owned presses *For a Lasting Peace, for a People's Democracy !*, the journal of the Cominform published in Bucharest, was changed from a fortnightly to a weekly in September. A. Johnstone, the editor of the British Foreign Office newspaper in Moscow, *British Ally* (*Britansky Soyuznik*), resigned from his post "for reasons of conscience." He renounced British nationality and decided to remain in the Soviet Union; W. R. Jones, assistant news editor of the *Daily Telegraph*, was appointed to succeed him. The English-language newspaper *Moscow Daily News* closed down in February, and *Izvestia*, the government newspaper, was awarded the Order of the Red Banner for "successful work in educating the workers." Meanwhile, the Court of Appeal in Britain ruled that the Tass agency (the official Soviet news agency) was protected against actions for libel by diplomatic immunity. (D. HN.)

United States. The highest costs in history faced U.S. newspaper proprietors in 1949. The average hourly wage of mechanics passed the $2 mark for the first time, and further wage increases were demanded. Newsprint remained at the $100-a-ton price reached during the war. Consumption of newsprint broke all records, approaching 4 million tons during the first ten months. Many large special editions, including a 380-page *New York Times*, were partially responsible for the increase. Circulation in Jan. 1949 reached the new record of 52,285,297 copies sold daily and 46,308,081 Sunday sales, and appeared to be rising slightly, with afternoon newspapers leading. But copy prices had risen to five cents, with no one-cent and few two-cent daily newspapers on sale, and publishers estimated profits at 5% to 30% below those of 1948. For the sixth year, the number of daily newspapers increased.

The most important labour news was the settlement on Sept. 18 of the strike of the printers of five Chicago newspapers which had started on Nov 24, 1947. After printing with photo-engraved typewritten copy since the strike began, Chicago daily papers started using type again on Sept. 21, giving their 1,500 printers $10 a week increase and a new contract which met the demand of the International Typographical union for something like "closed shop" conditions without violating the Taft-Hartley labour law. After months of argument, the National Labour Relations board on Oct 29 found the I.T.U. guilty of violation of the Taft-Hartley law in its "closed shop" and "unilateral" bargaining, but as late as Dec. 17 the union had taken no steps to comply with the board's order.

United Press set up the first teletype system in Japan and on April 26 transmitted a radio teletype message from London to three continents. Six Kansas daily papers joined in a tele-typesetter circuit for wire news. The *New York Times* printed a Paris edition for which matrices were flown daily from New York.

The most notable ownership change was the purchase on July 20 of the *Washington Times-Herald* by Colonel R. R. McCormick, publisher of the *Chicago Tribune* and part owner of *New York Daily News*. The *New York Star*, successor in 1948 to *PM*, suspended publication on Jan. 28, thus ending the venture of a newspaper carrying no advertisements started by Ralph Ingersoll in 1940.

A request of the U.S. post office in February for a 25% increase in second class mailing rates for publications led to much discussion at newspaper meetings, but congress adjourned without passing the bill to increase rates.

The magazine industry reported tighter business trends in 1949. Although circulations fluctuated, there was a 9·4% increase in total bookstall sales. Total advertising dropped by about 2% during the first nine months. *Life* cut its advertising rates by 3% on April 4. Paper prices dropped slightly during the early months of the year but rose again in August. Wages and selling costs rose and profit margins narrowed. The greatest sales gains were reported by "romance" magazines, cinema reviews, "'teen-age," popular science, home architecture and fashion publications, while sales of standard women's magazines declined. More magazines were launched for ages 7-14. Morris Fishbein retired as editor of the *American Medical Journal;* David A. Smart returned as publisher of *Esquire*, and John Denson became managing editor of *Colliers*. An annual directory listed 7,800 magazines of all types in 1949. (G. M. HY.)

NEW YORK CITY. Largest city in the United States and second largest in the world. The population of New York city was estimated in 1949 at 8,161,000. The city polled the largest mayoralty vote in its history in the 1949 election and returned Mayor William O'Dwyer and the principal officers of his first administration to office.

On the fourth anniversary of the founding of the United Nations, the cornerstone of its permanent home was laid in an historic meeting of the general assembly on the site. In 1949 the city of New York contributed $23 million in property and services to the establishment of the permanent U.N. headquarters on the East river.



A parade arriving at the City Hall, New York, Nov. 21, 1949, in honour of the Shah of Persia, standing centre foreground (bare-headed) with Mayor William O'Dwyer on his left.

Construction, public and private, rose to the highest level since World War II. The city construction co-ordinator reported that $505 million of the city's improvement programme was under construction and that $555 million of construction by other public or quasi-public agencies was under way. School construction reached a peak, with projects completed at the rate of more than one a month. Public housing projects to accommodate more than 32,300 families were under construction or completed during the year. Plans were advanced for construction of 80,000 additional public housing apartments with state and federal financing. However, the shortage of housing continued acute and the city took steps to reinforce rent controls.

The last months of 1949 found New York city grappling with the most critical water shortage in memory. During the summer, the New York watersheds were parched by drought. Construction of the Delaware Water Supply system, initiated in 1937 but suspended during World War II, was several years from completion. With consumption averaging 1,150 million gal. per day, 175 million gal. more than in 1937, water in the reservoirs fell to one-third of capacity. A crisis was averted through a campaign for voluntary conservation which, at the end of the year, had curtailed consumption by 310 million gal. per day, thus giving the authorities time to consider further measures for husbanding supply.

NEW ZEALAND, DOMINION OF. A self-governing member of the Commonwealth of Nations. It consists of two large and several small islands in the south Pacific. Area: dominion proper 103,416 sq. mi.; other islands 519 sq. mi. Pop., dominion proper: (Sept. 25, 1945 census, excluding Maoris) 1,603,554; (est. June 1949) 1,888,000 including 114,000 Maoris; Cook and other Pacific islands 19,167; Tokelau islands (1945 census) 1,388. Western Samoa, a trusteeship, has an area of 1,133 sq. mi. and a pop. (est. March 1947) of 71,460. Chief cities (est. April 1949): Wellington (*q.v.*) (cap., 186,000); Auckland (*q.v.*) (289,000); Christchurch (164,000); Dunedin (88,800); Palmerston North (30,100). Language: English. Religion: mainly Christian (Anglican 37·5%, Presbyterian 23·4%, Roman Catholic 13·5%). Ruler, King George VI; governor general, Lieutenant General Sir Bernard Cyril Freyberg; prime ministers in 1949, Peter Fraser (*q.v.*) and (from Dec. 13) Sidney George Holland (*q.v.*).

History. The event of the year was the defeat of the Labour party by the National party in the general election held on Nov. 30. The Labour party led by Peter Fraser, who had held the office of prime minister for nine years, had completed 14 years of service. S. G. Holland, the new prime minister, was first returned to parliament in 1935. His party returned to office on a programme of relaxation of controls, discontinuance of further schemes of nationalization and a re-affirmation of the merits of private enterprise. The National party promised not to reduce the existing system of social security. Thus the swing of the political pendulum repeated political history which in general records decades of Liberal government interspersed with periods of Conservative administration (*see* ELECTIONS).

The year saw the wave of economic prosperity in New Zealand still high, and reflected throughout the whole community. Prices for crossbred and merino wool broke all records at 66½*d.* and 85*d.* per lb.; average prices were 26*d.* and 46¼*d.* per lb. respectively. High production in other primary industries made New Zealand Britain's chief supplier of meat, butter and cheese. Record production was achieved in timber milling and food processing works.

The buoyancy of the prosperity wave was reflected in the conversion of a £29 million debt loan floated within the country. Later in the year two further conversions on the London market were equally successful. The first, £7,322,579, 3½% maturing 1954, of which £7 million was converted into 3% 1973-77; the second, £7·5 million, 5% maturing 1949, of which £6 million was converted into 3½% 1963-66. The balance in each case was repaid.

In the field of international affairs New Zealand sent an observer to the conference on Indonesia and the government recorded support for the Antarctic agreement reached between Argentina and Great Britain. Representation on the Far Eastern commission was continued, while Lieut. Colonel

F. W. Voelcker and C. G. R. McKay represented the country on the South Pacific commission. A new legation in Paris was opened with Miss Jean McKenzie as chargé d'affaires, and a new consul general's office was established in San Francisco. James Thorn, high commissioner for New Zealand in Canada, gained distinction by being elected president of the U.N. Economic and Social council. New responsibilities in the administration of Western Samoa and Nauru island under the United Nations trusteeship agreement were assumed; and Sir Carl Berendsen led the New Zealand delegation to the United Nations meetings at Lake Success. Recognition was given to the new state of Israel and to Korea.

Legislation giving the state the sole right to transact workers' compensation insurance became effective. A national referendum on the question of gaming and hotel licensing hours was held, the majority favouring off-course betting through the existing totalizator facilities. The referendum also decided to continue the present licensing laws whereby hotel bars close at 6 P.M.

Emigrants from Britain in the postwar period to March 31, 1949, totalled 33,786. Of this total, 5,195 of single status and specially selected, received government assistance; and the Overseas league of Britain sponsored a child migration scheme during the year under which 128 children found homes in the country.

A defence scheme involving compulsory military service was submitted to a national referendum and approved by 535,016 to 152,575. The expansion of navy and air force units was also outlined.

Foundations were laid for the development of a salt industry at Lake Grasmere, and of a state factory to manufacture newsprint and other wood-pulp products at Murupara. New tests for smelting ironsands from Taranaki beaches by electrical processes were successful and were likely to increase New Zealand's industrial potential. Large schemes of hydro-electric development were carried forward on the Waikato river, where ultimately ten power stations were planned, and at Lake Tekapo and Roxborough in the South Island. A seven-year plan for spending £54 million on such work was outlined by the minister of works, R. Semple. In September the devaluation of the currency and the maintenance of parity with sterling were announced.

Shipping lines improved their services to the dominion as new vessels and others, re-fitted after war service and carrying the latest devices for refrigerated cargo, took up the dominion run. The increased passenger accommodation assisted in reducing the long waiting list for intending travellers to and from the dominion.

The British Commonwealth Pacific Airways company began to fly the Pacific using the latest long-distance Douglas aircraft. The route between Auckland, San Francisco and Vancouver *via* Fiji, Canton island and Honolulu, cut 10½ hours off the previous timetable of 56 hours. The new service operated weekly instead of fortnightly.

The Pacific Science congress met for the first time in New Zealand in February with more than 300 delegates from many countries attending. The sessions held in Auckland and Christchurch discussed methods of co-operation and organized research, while stress was placed on the role of the Pacific area in the world's activities. Professor R. A. Falla, director of the Dominion museum, was chairman. (A. T. CL.)

Education. (Dec. 1947) Primary schools 2,270, pupils 259,182, teachers 8,215; secondary schools 229, pupils 37,229, teachers 1,897; secondary schools for Maoris 16, pupils 804; technical schools 28, pupils 12,328 (part-time 18,697), teachers 706; University of New Zealand, students 12,764; training colleges 4, students 1,564.

Agriculture and Fisheries. Main crops (in '000 metric tons, 1947-48; 1948-49 in brackets): wheat 124 (150); barley 46 (45); oats 47 (50); potatoes 158 (136). Livestock (in '000 head): lambs (April 1948) 7,947; breeding ewes (April 1948) 21,055; total sheep (April 1948) 32,483; dairy cows and heifers (Jan. 1948) 2,638; beef stock (Jan. 1948) 2,078; total cattle (Jan. 1948) 4,716; pigs (Jan. 1948) 548; horses (Jan. 1949) 200. Fisheries: total catch (1946): weight 32,047 metric tons. Food production: meat (in metric tons bone-in-weight, 1946-47): total carcase 543,873 of which beef 170,748, veal 18,514, mutton 130,697, lamb 188,419, pig meat 35,495; edible offal (in metric tons, 1946-47) 22,476; butterfat (in '000 metric tons, 1947-48) 190·5; creamery butter (in '000 metric tons, 1947-48) 151·5; cheese (in '000 metric tons, 1947-48) 87·7. Wool production (in '000 metric tons, greasy basis, 1948-49) 166.



The prime ministers of New Zealand during 1949. Peter Fraser (left), prime minister from April 1, 1940, and Sidney George Holland from Dec. 13, 1949.

Industry. (1948) Industrial establishments 35,579; persons employed 438,480. Fuel and power (1948; 1949, six months, in brackets): coal (in '000 metric tons) 969 (403); lignite (in '000 metric tons) 1,851 (942); manufactured gas (in million cu.m.) 155 (76); electricity (in million kwh.) 2,590 (1,189). Raw materials (in metric tons): pumice (1947) 3,443; white arsenic (1947) 8; superphosphates (1948) 558,400. Gold ore (in fine troy ounces, 1948) 93,903; silver ore (in fine troy ounces, 1948) 232,563.

Foreign Trade. Imports (1948), £NZ.128·8 million; exports (1948), £NZ.147·3 million. Principal imports: textiles, apparel, machinery, vehicles and paper. Principal exports: wool, butter, meat and cheese. Main sources of imports in 1948: United Kingdom 52%, Australia 11%, United States 11%. Main destinations of exports in 1948: United Kingdom 73%, United States 5%.

Transport and Communications. Roads (1948) 76,401 mi. Licensed motor vehicles (Dec. 1948): cars 228,562, commercial vehicles 73,570. State railways (1948-49): 3,526 mi.; passenger journeys 26 million; freight net ton-mi. 980 million. Shipping (Dec. 1947): number of registered vessels 478, total net tonnage 95,089. Air transport (1948-49): mi. flown 7·6 million, passengers flown 215,200. Telephones (March 1948): subscribers 222,504. Wireless licences (March 1948) 420,983.

Finance and Banking. Budget (consolidated fund and social security fund excluding war expenses account): (1948-49 actual) revenue £NZ.170,961,000, expenditure £NZ.166,890,000; (1949-50 est.) revenue £NZ.153,033,000, expenditure £NZ.154,939,000. Gross national debt (Dec. 1947): £NZ.5,989 million. Currency circulation (Sept. 1949; in brackets Sept. 1948): £NZ.45·7 (43·9) million. Gold reserve (Sept. 1949; in brackets Sept. 1948): 29 (23) million U.S. dollars. Deposit money Aug. 1949; in brackets Aug.1948): £NZ.146·7 (138·0) million. Monetary unit: *New Zealand pound* with an exchange rate (Dec. 1949; in brackets Dec. 1948) of £NZ.1·0038 (1·0038) to the pound sterling.

NEW ZEALAND LITERATURE. Nearly all new novels published during 1949 were set in New Zealand in the thirties. Within a framework of family life, three novels developed themes which allowed their characters to be affected by the special issues of that time, from unemployment to war. Dan Davin's *Roads from Home* (London), the most powerfully written of them, outlined the problems of two sons of an Irish-Catholic railwayman in Southland, one with an unfaithful wife and the other expected by his pious mother to become a priest. Frank Sargeson's *I Saw in my Dream* (London) contained and completed his earlier, episodic *When the Wind Blows* (1945) by developing his lawyer-clerk hero into a back-country farm-worker who

becomes involved in several very human, but unresolved, situations. A pacifist who later joins the army and finds himself forced to shoot a fugitive from justice was the main theme of Erik de Mauny's *The Huntsman in his Career* (London). These three novels and David Ballantyne's *The Cunninghams* (New York, 1948), were recognized as showing a considerable advance in technique and literary skill over earlier New Zealand fiction. Curiously all seemed to owe some of their qualities to John Mulgan's important *Man Alone* (1939), which, after being unprocurable for a decade, was re-published (Hamilton) during the year with the aid of a grant from the State Literary fund. The only other works of fiction were Greville Texidor's *These Dark Glasses* (Christchurch) and Nelle Scanlan's *The Rusty Road* (Wellington).

The most discussed poem was Ruth France's *Royal Ode*, which won a competition for the best ode celebrating the (postponed) royal visit to New Zealand. James Baxter, with a delicate awareness of landscape and a stronger turning towards the human scene, wrote some fine lyric poems. Save for Denis Glover's *The Coaster*, a film commentary in verse, the older poets published no major work; but the younger poets, particularly William Oliver and Pat Wilson, were effusive, sensitive, and highly romantic. In three acts of prose and verse, Howard Wadman's *Life Sentence* (Wellington) attempted to be a society satire and a drama of sin and expiation.

More Otago centennial publications appeared, the most important being A. H. McLintock's *History of Otago*, which brought to New Zealand for the first time the Ernest Scott prize, given for research in Australasian history. The Golden Jubilee of Victoria University college was marked by a witty, provocative college history by Dr. J. C. Beaglehole and a new anthology of college verse.

Professor A. S. Musgrove wrote an interesting critical paper, *Some Anthropological Themes in the Modern Novel* (Auckland).

Landfall, a quarterly edited by Charles Brasch, completed its third year of publication; and a new Wellington literary quarterly, *Hilltop*, appeared in April. (R. W. B.)

NICARAGUA. A republic in Central America, situated between Honduras on the north and Costa Rica on the south, with a coastline of over 300 mi. on the Atlantic and over 200 mi. on the Pacific. Area: 57,143 sq. mi. (of which 3,475 sq. mi. is water). Pop. (Dec. 31, 1948 est.): 1,172,862. Nicaragua is the most thinly populated of the Central American republics; the population of the eastern half of the country is mainly Indian or Negro; the population of the western part is of mixed Spanish and Indian extraction, with some of pure Spanish descent. Chief towns (pop., 1948 est.): Managua (cap., 146,819); Léon (53,277); Matagalpa (53,118); Jinotega (41,065). Language: Spanish. Religion: predominantly Roman Catholic. President of the republic, Victor Manuel Román y Reyes.

History. The major political issue during 1949 was the national conciliation programme designed to bring about a coalition of all parties and to present a single presidential candidate in the next election. The pact which was subscribed to by the Nationalist Liberal (administration) party and the "civilista" Conservatives in Feb. 1948, was discussed again during the year, but administrative attempts to bring the "genuine" Conservatives and the Independent Liberals into the coalition were fruitless. As a conciliatory gesture to the "genuine" Conservatives, the government invited their exiled chief, General Emiliano Chamorro, to return to the country. Chamorro returned on June 18; but although talks between him and both President Román y Reyes and General Anastasio Somoza continued until late November, no agreement was reached. The Conservative party's opposition to national conciliation was expressed in September when it ousted Carlos Cuadra Pasos from its leadership for his part in the Feb. 1948 agreement between the "civilista" Conservatives and the administration party. The temporary arrest of Arturo Velázquez Alemán, secretary general of the Independent Liberal party, on March 21, intensified the antagonism of his group towards the official party.

A major point of contention was the influence in the government and the possible presidential candidacy of General Somoza, both of which were ardently opposed by the Independent Liberals. A tour of the Atlantic coast districts by Somoza and a public demonstration on his behalf when he returned to Managua in May were interpreted in some quarters as a bid by Somoza for the presidency in the next election.

On the economic front, Nicaragua continued to suffer an unfavourable balance of trade and shortage of dollar reserves, but was able to repurchase 2 5 million córdobas from the International Monetary fund and thus restore $500,000 purchased from the fund in 1948. Higher coffee prices in the latter part of the year gave promise of an improved economic position.

Education. Schools (1948-49) primary 1,302, teachers 2,918, pupils, 89,991; secondary 78, teachers 556, pupils 10,891; universities 2, students 620 For the year the national budget provided 7,764,390 córdobas for public education

Foreign Trade. Exports during 1948 were valued at U S $26·6 million ($20 9 million in 1947); imports $24 1 million ($20 8 million in 1947). The U S supplied 85·5% of the imports and took 43 8% of the exports In 1948 the leading shipments were gold (182,964·16 troy oz), coffee (242,017 bags of 132 lb each), bananas (678,598 stems) and sesame seed (26,565,633 lb) Coffee exports from the 1948-49 crop (the lowest since 1912) totalled 109,609 bags

Communications. In 1949, railways measured 236 mi., surfaced highways 417 mi., all-weather dirt roads 79 mi At the close of 1948 there were 1,443 motor cars, 672 lorries and 151 buses registered in the country

Finance. The monetary unit is the *córdoba*, officially maintained at 20 U S cents. The 1949-50 budget provided for expenditures of C 54 3 million, a 14% reduction from the previous year On Dec 31, 1948, the public debt was C 28 9 million internal and C 17·3 million external. Notes in circulation (Sept. 1949): C 50 7 million (M. L. M.)

NIGER: *see* FRENCH UNION

NIGERIA: *see* BRITISH WEST AFRICA.

NOBEL PRIZES. These are awarded from the Nobel foundation, a fund established under the will of A. B. Nobel, a Swedish chemist and engineer, who died on Dec. 10, 1896 The prizes were first awarded in 1901. The values of the prizes vary: the prizes in 1949 were 156,289 Swedish crowns (about £11,000).

The 1949 peace prize was awarded to Lord Boyd-Orr (*q.v.*). Lord Boyd-Orr was director-general, United Nations Food and Agricultural organization, 1946-47, and in 1949 was president of the world movement for a world federal government. The prize for medicine and physiology was shared between Professor Antonio Caetano de Abreu Freire Egas Moniz (*q.v.*), a neurologist and former diplomat, of Lisbon, Portugal, and Professor Walter Rudolf Hess (*q.v.*), an eye and brain specialist, of Zurich, Switzerland. Dr. Hideki Yukawa (*q.v.*) of Tokyo, who in Sept. 1949 was appointed visiting professor of theoretical physics at Columbia university, New York, received the physics prize. This was the first time the prize for physics had been awarded to a Japanese The prize for chemistry went to Professor William Francis Giauque (*q.v.*), professor of chemistry at the University of California.

The Swedish Academy of Letters decided not to award the Nobel prize for literature in 1949. The value of the prize would be carried forward to 1950.



The Crown Prince of Sweden (right) presenting the Nobel prize for medicine to Professor Rudolf Hess, of Zürich, in Stockholm, Dec. 10, 1949.

NOBS, ERNST, Swiss statesman (b. Seedorf, Canton Berne, July 14, 1886). A teacher by profession, he was editor of the Social Democratic daily newspaper *Volksrecht* (Zürich) 1915-35. He was a member of the National Council, 1919-43, and a member of the state council of the canton of Zürich, 1935-42. In 1942-43 he was lord mayor of Zürich, and on Dec. 15, 1943, he was elected to the Federal Council as minister of finance and customs. On Dec. 16, 1948, he was elected president of the confederation for 1949, being the first Social Democrat in Swiss history to be appointed to this post. On July 28, 1949, President Nobs, a widower since 1948, married Rosa Hulda Froehlich.

NORDENSKIÖLD, BENGT GUSTAFSSON, Swedish air force officer (b. Sundsvall, Sept. 6, 1891), naval cadet 1907-08, served with the Royal Svea Life guards and graduated from the Military academy in 1924. After two periods on the general staff and further service with his regiment, he became (1931) an observer in the air force, where his interests henceforth centred, although he taught at the Military academy from 1933 and was a major on the general staff in 1935. He underwent training as a pilot until 1936, when he took over command of the air force staff. Study of the British, Canadian, Finnish, German, Italian and U.S. air forces and aircraft industries further equipped the creator of the Swedish air force, of which he had been c.-in-c. since 1942. During World War II he took a close personal interest in the care of Allied airmen who made forced landings in Sweden after attacks on Germany, and was created a K.B.E. In an address to Uppsala university students in 1942 he stressed the strict requirements of defence in a "war of brains" and the need for internal unity, to make Sweden the solid rock on which a free and happy North could build. When in Feb. 1949 he visited Canada to study winter flying conditions, the climatic similarity to Sweden enabled him to make valuable observations on a tour which extended to Whitehorse in the Yukon. (E. J. L.)

NORFOLK ISLAND: *see* BRITISH EMPIRE.

NORTH ATLANTIC TREATY. This treaty, which was concluded in 1949, links the United States and Canada with ten western European nations for 20 years in a defensive alliance, embodying the principles of joint strategic planning and of mutual aid in military supply policy. It was the first alliance ever entered by the United States in peacetime, and it formed the chief basis of security in western Europe. The conclusion of the treaty was one of the two most important world political events of 1949 (the other being the Communist victory in the Chinese civil war); it changed the world balance of power by checking Soviet expansion in Europe; it also noticeably reduced the danger of war, which had made itself felt in the preceding year.

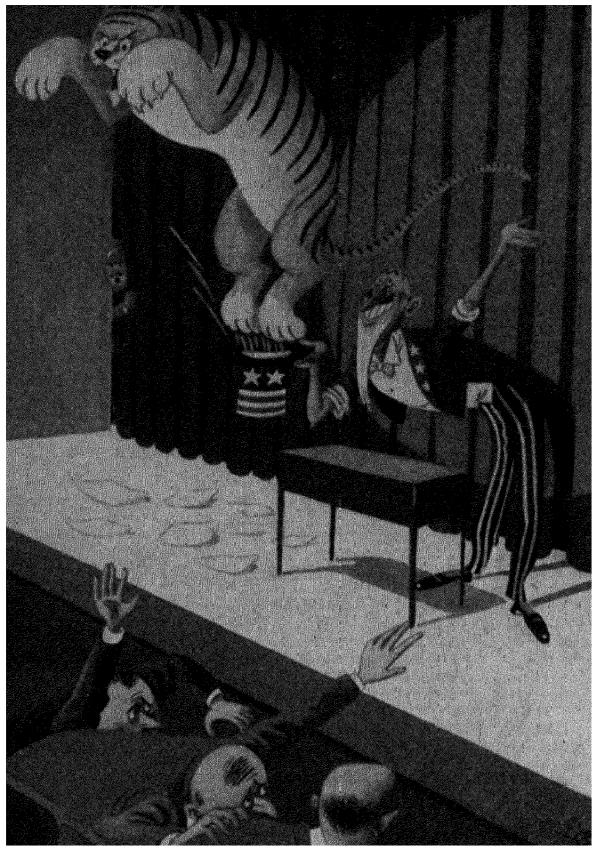
When, on March 17, 1948, Great Britain, France and Benelux signed the Treaty of Brussels, President Harry S. Truman declared that "the determination of the free countries of Europe to protect themselves will be matched by an equal determination on our part to help them to do so." A Senate resolution, passed at the initiative of Senator Arthur H. Vandenberg on June 11, 1948, gave support to that declaration. The need for linking the defence of North America with that of western Europe was also expressed by the then minister of external affairs of Canada, Louis Stephen Saint-Laurent, on April 29, 1948.

The Soviet blockade of Berlin, which began on June 24, 1948, gave added urgency to the question of security in western Europe. Accordingly, exploratory discussions about a defensive alliance began in Washington on July 6, 1948, between the U.S. State Department and the ambassadors of the Brussels treaty powers and Canada. From July 21, a U.S. observer, Major General Lyman L. Lemnitzer, took part in the meetings of the military committee of the Brussels treaty powers in London.

By the beginning of 1949, the Washington negotiations had produced agreement in principle. The major difficulties —especially the obstacles placed in the way of advance commitments by the U.S. constitution, which reserves the right to declare war to congress—were overcome, and successive statements by the U.S. State Department began to prepare American public opinion for this major new departure in foreign policy.

At the same time, the State Department let it be known that it favoured the inclusion of Denmark, Norway, Iceland, Portugal and Ireland in the proposed regional defence group owing to their strategic importance to the defence system of the U.S. and the north Atlantic. Of these countries, Ireland refused participation on the grounds of its grievance over the status of Northern Ireland. On the other hand, Italy took an initiative of her own to be included in the proposed treaty. A journey of its prime minister, Alcide De Gasperi, to Paris and Brussels and a memorandum sent by its foreign minister, Count Carlo Sforza, to the Western Union council secured Western Union support for its membership, and the other founding members agreed.

A protracted crisis arose in Scandinavia over the proposed membership of Norway (*q.v.*) and Denmark (*q.v.*). At a meeting of the three Scandinavian prime ministers in Karlstad, Sweden, on Jan. 5, 1949, Sweden (*q.v.*) submitted an alternative proposal for a regional defence group of the three Scandinavian countries, which would be pledged to joint neutrality. This proposal was debated at further meetings at Copenhagen (Jan. 22-24) and Oslo (Jan. 29-30). In two notes of Feb. 1 and 6, the Soviet Union pressed Norway not to join the proposed North Atlantic treaty and offered a non-aggression treaty instead. On Feb. 6, the Norwegian foreign minister, Halvard Lange, flew to Washington to discuss the alternatives before Norway with the U.S. secretary of state, Dean G. Acheson, and in particular to ascertain whether a neutral northern defence group could expect American assistance in armament supply. The results of his journey were debated in secret session by the Norwegian Storting on March 3, when it was decided by a vote of 118



A cartoon by Raul Verdini published in the Communist weekly "Vie Nuove" (Rome) under the title "A rabbit should appear but he's a North Atlantic treaty conjuror."

to 11 that Norway should participate in the North Atlantic treaty discussions and decline the Soviet offer of a non-aggression pact, as well as the Swedish offer of a neutral Northern alliance. Denmark subsequently followed the Norwegian lead.

On March 19, the U.S., Canada, Great Britain, France, Belgium, the Netherlands, Luxembourg and Norway announced full agreement, published the text of the proposed treaty and invited Denmark, Iceland, Italy and Portugal to join them in signing the treaty dnring the first week in April. The invitations were accepted, and the 12 foreign ministers signed the treaty in solemn ceremony in Washington on April 4, in the presence of President Truman.

The treaty is set out in a preamble and 14 articles, of which the operative articles are articles 3, 5 and 9. Article 3 pledges the parties to the treaty "separately and jointly, by means of continuous and effective self-help and mutual aid, to maintain and develop their individual and collective capacity to resist armed attack." Article 5 states "that an armed attack against one or more of them in Europe or North America shall be considered an attack against them all" and that in that case each of them "will assist the party or parties so attacked by taking forthwith, individually and in concert with the other parties, such action as it deems necessary, including the use of armed force, to restore and maintain the security of the north Atlantic area." Article 9 states: "The parties hereby establish a council, on which each of them shall be represented, to consider matters concerning the implementation of the treaty. The council shall be so organized as to be able to meet promptly at any time. It shall set up such subsidiary bodies as may be necessary; in particular, it shall establish immediately a defence committee, which shall recommend measures for the implementation of articles 3 and 5."

The preamble pays homage to "the principles of democracy, individual liberty and the rule of law." The other articles of the treaty contain references to the United Nations charter, general undertakings for consultation and economic co-operation, a definition of the area covered by the treaty ("north of the tropic of Cancer") and technical provisions for ratification, procedure for further accessions, possibilities of revision after 10 years and termination after 20 years.

After stormy debates in the French and Italian parliaments and searching debates in the U.S. congress, the treaty was ratified by all signatories during the summer and was proclaimed by President Truman to have entered into force on Aug. 24, 1949.

The Soviet Union reacted to the treaty with violent words and cautious actions. Moscow radio declared that "the pact means war against the Soviet Union" and the Soviet press spoke of its "aggressive aims" and called it "a weapon of the Anglo-American imperialists intent upon world domination." The Soviet Union also protested against the inclusion of Italy in the treaty, alleging that this violated the Italian peace treaty. At the same time, however, the Soviet Union proclaimed "a policy of peace" and agreed to the lifting of the blockade of Berlin. Tension in Europe relaxed somewhat, and the threat of a situation in which article 5 of the treaty might have to be invoked receded for the time being.

The rest of the year was mainly filled with activity to implement articles 3 and 9. On May 14, the U.S. State Department issued a "Peace Paper," stating that the existing defences of western Europe were so inadequate as to "invite military aggression" and asking for a Military Aid programme, consisting of dollar aid to increase military production in western Europe, direct supply of arms and equipment and provision of U.S. technical assistance. The cost of the programme for the year July 1, 1949, to June 30, 1950, was estimated at $1,450 million, of which $1,130 million was earmarked for the North Atlantic treaty nations.

The Mutual Defence Assistance bill, which embodied these proposals, had a difficult passage through congress but was in the end substantially passed under the impact of President Truman's announcement on Sept. 22 of an atomic explosion in the Soviet Union. The value of aid to the North Atlantic treaty nations was, however, limited to $1,000 million and made conditional on the acceptance of a generally agreed defence plan.

In November, the United States entered into negotiation with the prospective recipients of military aid for the conclusion of bilateral treaties about the conditions under which aid was to be supplied and the use to be made of it. These negotiations were approaching successful conclusion by the end of the year after initial differences, especially between the United States and Great Britain, had been narrowed down. No American arms were, however, actually delivered to the North Atlantic treaty countries during 1949.

In preparation of the planned military assistance to Europe, the U.S. government established, during the closing months of 1949, a new Military Assistance administration, largely modelled on the Economic Co-operation administration concerned with the European Recovery programme. Under the president, who was advised by the Defence Steering committee composed of the secretaries of state and defence and the E.C.A. administrator, military aid was to be operated by a Military Assistance Correlation committee, headed by a director of military aid. James Bruce was appointed to this post. A co-ordinating committee in London,

headed by the U.S. ambassador in London, was to direct operations at the receiving end, while U.S. military aid missions, consisting of military technicians, were to be attached to the U.S. embassies in the recipient countries.

Parallel with this American machinery for the purpose of assisting western European military re-equipment, formidable international machinery came into being during the closing months of 1949 for the purpose of joint strategic planning among the North Atlantic treaty powers. The North Atlantic council, established in article 9 of the treaty, held its first meeting in Washington on Sept. 17 under the chairmanship of the U.S. secretary of state. It set up a defence committee (consisting of the defence ministers), a military committee (consisting of the chiefs of staff or their deputies), a standing group (consisting of three high-ranking U.S., British and French officers and meeting in continuous session in Washington) and five regional planning groups, with the following membership: (1) Northern Europe—Great Britain, Norway, Denmark; (2) Western Europe—Great Britain, France, Benelux; (3) Southern Europe-Mediterranean—Great Britain, France, Italy; (4) North America—U.S., Canada; (5) North Atlantic—all members except Italy and Luxembourg.

It was decided that the U.S. should take part in the work of regional planning groups 1, 2 and 3 and that in addition Canada, Denmark and Italy should take part in that of regional planning group 2.

All these committees and groups started work during October and November in Washington (defence committee, military committee, standing group, planning groups 4 and 5), London (planning groups 1 and 2) and Paris (planning group 3). In addition, a military production and supply board (concerned with such questions as international standardization of arms designs) was established in London on Nov. 1, and a financial and economic committee (dealing with the economics of common defence and keeping liaison with E.C.A. and O.E.E.C.) in Paris on Dec. 19.

The defence and military committees met in Paris from Nov. 29 to Dec. 1 and agreed on a strategic over-all plan for the defence of the North Atlantic treaty area, a programme of production and supply and the co-ordination of planning between regional groups.

Altogether, the closing months of 1949 saw the North Atlantic treaty organization coming vigorously to life, though physical rearmament of western Europe through



Ernest Bevin signing the North Atlantic treaty in Washington, April 4, 1949. On his right is Sir Oliver Franks, British ambassador, and behind, left to right, are President Harry S. Truman, Dean Acheson (United States), Lester Pearson (Canada) and Robert Schuman (France).

American aid was only to start in 1950. One unsettled problem remained the relation of the largely duplicating international defence machineries built up under the North Atlantic treaty and under the treaty of Brussels. (S. HR.)

NORTHERN IRELAND comprises the six counties of Antrim, Armagh, Down, Fermanagh, Londonderry and Tyrone; it forms part of the United Kingdom of Great Britain and Northern Ireland, but (from 1920) has had its own parliament and executive (with limited powers for local purposes) although it is represented in the imperial parliament by 13 members. Area: 5,451 sq. mi. Pop. (Dec. 31, 1948, est.): 1,365,000. Language: English. Religions (1937 census): Roman Catholic 33·5%; Presbyterian 30·5%; Episcopalian 27%; Methodist 4·3%, etc. Chief towns (pop. est. 1948): Belfast (cap., 450,000); Londonderry (49,000); Bangor (19,000). Governor, the Earl Granville; prime minister, Sir Basil Brooke (*q.v.*).

History. The year began at election fever heat. Sir Basil Brooke, the prime minister, had announced that there would be a general election on Feb. 10 in order that the voters could respond to the British government's assurance that the status of Northern Ireland would not be changed unless its people so wished. Sir Basil had visited Clement Attlee in London to get this assurance when Eire declared her intention of becoming an independent republic. The Nationalist opposition maintained that Sir Basil was rushing the election before the new electoral register came into force on April 1 so as to disfranchise a large number of possibly hostile voters. The campaign in Belfast, which is not noted for quiet elections, was even bitterer than usual. Jack Beattie, an Independent Socialist and a member at Westminster, protested in the British House of Commons that he was in bodily danger and was being denied the right of free speech. When the wrangling was finally over the Unionists were seen to have triumphed utterly. They were returned with 37 seats instead of 35; the Nationalists secured 9 (previously 8); Independent Unionists 2, Independent Labour 1, Socialist Republican 1 and Independents 2 were all unchanged; the North of Ireland Labour party which had 3 seats was wiped out.

Though the Labour landslide was largely due to their own vacillation on the subject of Irish partition, Sir Basil Brooke could hardly be denied when he said that Ulster had re-affirmed its allegiance to the King and its faith in the British Commonwealth. The raising of funds in the south of Ireland to help Nationalist candidates in the north certainly helped to harden and close the ranks of the Unionists who were bitter about what they termed "foreign interference." But once the verdict of the electors was given and the British guarantee received by the passing of the Ireland act, the government at Stormont could afford once more to ignore the south and get on with its business.

It was pretty substantial business. Northern Ireland's exports in 1948 totalled £159,158,000. It was announced in March 1949 that since World War II 211 factories had either been started or extended, to give employment to 35,000 people. Up to the end of 1948 10,000 houses, 2,000 of them prefabricated, had been erected, a number which would have been considerably greater but for shortages of labour and materials. To prove their constant assertion that they were the most industrious and thrifty persons in the British Isles, Northern Irishmen could point to the fact that their small savings in 1948 averaged £3 10*s.* a head, as compared with an average of 12*s.* a head for the rest of the United Kingdom.

Nineteen-forty-nine saw the upward movement of unemployment halted, though the figures remained higher than in 1948. It was proposed to build two satellite towns near Belfast, to be named Loughside and North Laganside, which would be reserved entirely for light industries. Meanwhile a new 2½ mi. tunnel was to be driven through the Slieve Bingian mountain in Co. Down, to carry an aqueduct that would assure a permanently adequate water supply for Belfast. In June there were 21 merchant vessels, grossing 210,498 tons, under construction in Belfast yards and, though this figure was slightly smaller than in 1948, it still represented about one-twentieth of the total world tonnage being built. About 25% of the slips were idle, chiefly because of the difficulty of obtaining steel. Fears expressed early in the year that the rising price of steel would strike savagely at Belfast's main heavy industry were allayed by the announcement of devaluation which it was hoped would offset increasing costs. The linen industry, exporting 75% of its output, found trade difficulties hampering its efforts to hit a target of £10 million.

Though four-fifths of the agricultural holdings in Northern Ireland were of less than 50 ac., output again increased. In the year ending March 31, 1949, Northern Ireland's 90,000 farms exported to Britain over £27 million of food. There was an especially large increase in the export of milk, and during the autumn 70,000 gal. a day were sent to Britain by sea. The target of 80 million dozen eggs a year, originally set for 1952-53, seemed likely to be hit early in 1950.

In the government there were changes after the death of William Grant, minister of health and local government, and again when Edmond Warnock was appointed attorney-general in November. His place as minister of home affairs was taken by W. B. Maginess, and there were other minor replacements in the cabinet. As though to refute the often made assertion from the south that the Unionists were "fascists," the government in autumn revoked a number of the regulations made under the Special Powers act. The year ended with a political flare-up which caused the resignation of the minister of education, Lieut. Colonel S. H. Hall-Thompson, after Unionist back bench pressure had tried to alter the terms of government grants to voluntary schools. According to the extremer Unionists these grants favoured the Roman Catholics. It looked as though the confidence gathered from their February triumph might after all be tempting the Unionists along a reactionary path. (R. KN.)

Education. (1947-48) Schools: elementary 1,656, pupils 185,418; secondary 77, pupils 21,973, technical 115, students 30,124. The Queen's University of Belfast. professors and lecturers 216, students 2,685.

Agriculture. Main crops ('000 metric tons, 1948): oats 398, potatoes 1 693, wheat 4 8, barley 6 6, dredge corn 7 4; hay 792. Livestock ('000 head, June 1949). cattle 980; sheep 645, pigs 458; horses 55, goats and kids 9 6, asses 5·5; poultry 24,237. Food production (1948-49). sales of milk 80 million gal., eggs 74 million dozen; pig-meat 373,000 cwt ; mutton and lamb 95,000 cwt. Shipments to Great Britain (1947-48; 1948-49 in brackets): milk 14·8 (18·6) million gal. eggs 26 0 (32 0) million dozen; meat 742,000 (752,000) cwt.; bacon and ham 89,000 (131,000) cwt.; poultry 116,000 (140.000) cwt.

Industry. Electricity sales (million kwh , 1947; 1948 in brackets): 418 (467). Value of exports of linen goods to the United Kingdom for 12 months ending Sept 30, 1948: £18 8 million

Transport and Communications. Roads (1947) 13,000 mi. Licensed motor vehicles (Aug. 1949). cars 41 572, commercial vehicles 16,743. Railways (1947): 644 mi ; passengers carried 17,411,803; goods 2,095, 637 tons Belfast airport (1948); flights 6,283, passengers flown 81,884, cargo carried 605,812 lb , mail 639,206 lb. Telephones (1947): subscribers 37,067. Wireless licences (1947) 173,505.

Finance and Banking. Budget. (1948-49) revenue £60,306,286; expenditure £38,712,828; (1949-50 est) revenue £65,057,000; expenditure £44,995,000 Expenditure figures exclude contribution towards imperial expenditure estimated at (1948-49) £21·5 million and (1949-50) £20 million. Public debt (March 1949; in brackets March 1948) £28,666,725 (£28,430 652) Currency circulation (July 1949): £11,087,282. Ulster savings certificates (Sept. 1949; in brackets June 1948): £41,335,686 (£31,345,325). Trustee savings banks deposits at Belfast (Nov 1949; in brackets Aug. 1948): £44,147,148 (£41,521,898). Commercial bank deposits (June 1948): £101,107,000

NORTHERN RHODESIA. British protectorate on the plateau of central Africa. Area: 284,745 sq. mi. Pop. (1947 est.): 1,683,600. Governor, Sir Gilbert Rennie.



Arthur Creech Jones, secretary of state for the colonies, addressing the girls' school at Mindolo, Northern Rhodesia, during a visit to Africa in April, 1949.

History. In February unofficial European members of both the Northern Rhodesian and Nyasaland Legislative Councils took part in a conference, attended also by the prime minister and other members of the Southern Rhodesian government, at which a unanimous resolution was passed in favour of federation of the three territories and the creation of a federal parliament, the federal government to have wide powers.

Unofficial members of the Legislative Council having raised the question of taxing the mineral royalties of the British South Africa company, a meeting was called in London between the secretary of state for the colonies, the governor, and representatives of the elected members of the Legislative Council and the company; it was there agreed, *inter alia*, that, subject to certain guarantees in the meantime, the company should transfer its mineral rights to the government of Northern Rhodesia after 37 years.

A speech, made by the secretary of state for the colonies at Salisbury, Southern Rhodesia, during a tour of central Africa in the spring, was strongly criticized by the European element in Northern Rhodesia. In the course of the speech the secretary of state stressed the British government's responsibilities to the Africans in Northern Rhodesia and defined the scope of white settlement and European development. Later he found it necessary to enlarge on his statement and define his meaning more explicitly.

Under the auspices of the Beit trustees one of London's wartime bridges was transported and re-erected over the Kafue river, thus linking more effectively two sections of the Great North road in southern Africa (*see* BRIDGES).

Finance and Trade. Currency: Southern Rhodesian pound at par with sterling. Budget (1948): revenue £6,715,517; expenditure £6,208,455. Foreign trade (1948): imports £16,438,126; exports £28,650,783. Principal exports: copper (blister and electrolytic), zinc and lead. (J. A. HU.)

NORWAY. A constitutional monarchy of northern Europe, bounded on the N. by the Arctic ocean, on the E. by Finland, the U.S.S.R. and Sweden and on the S. and the W. by the North sea. Area: 125,147 sq. mi.[1] Pop.: (Dec. 3, 1946 census) 3,123,338; (mid-1948 est.) 3,181,000. Chief towns (pop., 1948 est.): Oslo (cap., 418,000, after extension of city limits); Bergen (108,933); Trondheim (56,444); Stavanger (42,218). Languages: Norwegian and Lappish (19,000). Religion: Lutheran. Ruler: King Haakon VII (*q.v.*); prime minister: Einar Gerhardsen (*q.v.*).

History. In a New Year's message Halvard Lange (*q.v.*), Norway's resolute minister of foreign affairs, said that co-operation must be expanded " with peoples with whom we feel a kindred relationship—people outside the boundaries of Scandinavia," and expressed the hope that Denmark and Sweden would come to the same conclusion. However, at three sessions held successively in Sweden, Denmark and Norway during January by the prime ministers and foreign and defence ministers of these countries, the possibilities of a Scandinavian military alliance were explored in vain. To reach common ground, Norway had been willing to forgo formal attachment to a more comprehensive regional system, but could not accept the Swedish stipulation that "security and political realities" were not to be discussed with the western powers. Moreover it had been learned that arms would not be available from the U.S. for nations not committed to general western defence; and Sweden could not, alone, arm Norway and Denmark to the extent required.

Lange flew, therefore, to Washington (Feb. 6) for information about the proposed North Atlantic grouping, which was indeed the embodiment of a concept outlined in Nov. 1940 by Arnold Raestad, governor of the Bank of Norway, in London. Meanwhile a Soviet note (Jan. 29) denouncing the proposed treaty had evoked the reply that the government would not join any agreement with other states opening bases for foreign "military forces on Norwegian territory, as long as Norway is not attacked or exposed to threats of attack." Lange, who saw Ernest Bevin in London on his way home, received overwhelming support for his initiative from the Norwegian Labour party congress (Feb. 20) and, when a formal invitation from the seven negotiating powers was placed before parliament, in secret session (March 3), the 129 members in favour were opposed solely by 11 Communists (5 Labour opponents staying away). Einar Gerhardsen, the prime minister, said that "those who want to wait until an Atlantic treaty is a reality must know that Norway does not want to shirk its share of responsibility. We wish to co-operate from the start, because we do not want the treaty to be only an affair of the great powers." Simultaneously a second Soviet note (Feb. 5), suggesting a non-aggression pact, was answered by reference to the pledges of non-aggression made by all members of the U.N. and by the assurances that in determining what constituted a "threat of attack" the government would depend on facts and not on rumours. As soon as the North Atlantic treaty (*q.v.*) was signed Norway requested military assistance; and when the Mutual Defence Assistance act had been approved by congress American officials visited Oslo to discuss the military aid programme, consultations continuing in London.

[1] Excluding Svalbard archipelago (Spitsbergen and Baer Island). Area: 24,294 sq. mi. The population, largely miners, shifts seasonally; in 1939 it was estimated at 2,210 (including 1,500 Russians). The extraction of coal, interrupted during World War II, reached in the Norwegian mines 436,800 metric tons in 1948, and about 435,000 in 1949.

But Norway did not wait passively for help North Norway was now designated a special defence area, under Admiral Tore Horve; army manoeuvres were carried out in eastern Norway, to test preparedness; in August the air manoeuvres were the most extensive since World War II and the chief airport at Stavanger was being enlarged; it was officially stated that Norway's merchant fleet would be armed in case of war; an Industrial guard linked 170,000 workers from some thousand independent enterprises, most of a Home guard numbering about 100,000 had weapons and uniforms, 90% ready to reach their posts within 1-3 hr., and several underground hydro-electric power stations would be completed in 3-4 years. On Dec. 6 the Norwegian all-party defence commission, at work since 1946, reported in favour of a 50% higher annual defence expenditure (Kr. 300 million yearly) and a capital expenditure of about Kr. 1,000 million over six years. Depots, it was proposed, should be decentralized and the chief naval base moved from Oslo fjord to Bergen Jens Hauge, the minister of defence, stated firmly, " Defending Norway is no hopeless task, and it is not correct to assume that Norway must be occupied in the event of a new war."

A Norwegian National Council of the European Movement was formed in May, as a result of Norway's joining the Council of Europe (*q.v.*), where it was granted four representatives on the consultative assembly. At the first meeting in Strasbourg, Terje Wold, chairman of the foreign relations committee of parliament, gave as an example of the " functional approach " to greater unity, which most of the British and northern delegates advocated, such Scandinavian co-operation as already existed in many spheres: for instance, no important law was now passed in Norway, Denmark or Sweden, he said, without prior consultation between them. In December, Lange declared that Norway favoured Western Germany's membership of the council.

Scandinavian co-operation, including Iceland, was expressed during the year by a joint decision to recognize Israel *de facto*, by a joint *demarche* in support of the Danish view on South Schleswig (*see* DENMARK), by a joint announcement of withdrawal from the World Federation of Trade Unions (*see* TRADE UNIONS) and by plans for mutual social security regulations, already agreed upon with respect to old age pensions. Norway, Sweden and Denmark would also attempt to co-ordinate their expanding steel programmes: but Lange maintained (Dec. 1) that a Nordic customs union would be detrimental to Norway and that security considerations still forced each country to aim at self-sufficiency.

On July 28 the Storting dissolved, having served the allotted span of four years, and a gentlemen's agreement was made to conduct the elections in a sober, factual manner, abstaining from rival demonstrations at election meetings and avoiding slander and abuse. The results (*see* ELECTIONS) increased the Labour majority in parliament from 2 to 20 and gave them more members than the other parties combined, although they did not win a majority of all votes cast, and also eliminated Communist representation. A month later Peder Furubotn, veteran Communist leader, was expelled by the central committee for " Titoism " and was said to have organized a new central committee with three former national executive members, likewise expelled.

The Labour victory was attributed to the critics' dispersal among many parties but also to the government's achievements: full employment, higher production than before World War II, ample investment in new factories and power plants, substantial reconstruction in the north, restoration of the merchant fleet to prewar size, improvement in food and clothing supplies and diminished rationing. Unanimity on defence and foreign policy moreover largely prevailed except for the Communist group, which campaigned against the North Atlantic treaty and Marshall aid. Nevertheless many besides the Conservatives had doubts about the future; above all, Norway shared Europe's dollar problem. In a conciliatory post-election speech Gerhardsen promised not to intensify socialization and stated solemnly, " Only increased production can help us. If we could only increase production by 4%-5%, we would not have any problem at all."

In May A. E. Staley, retiring chief of the E C A. mission, described Norway's four-year recovery plan as " unique among Marshall lands," and elsewhere the production index for 1948, that is, 138 (1937 100), had been cited as the best in the same group. Without Marshall aid, however, 1948-49 imports would have been cut by 50%, affecting food and investment. The outlook was also complicated by widespread demands for higher wages, which employers protested they could not pay because of increased working costs. After a visit by seven Labour leaders to the U.S , Haakon Lie, secretary general of the Norwegian Labour party, proposed that 200 workers should be employed annually for a period in U S. plants, to study means of achieving a high output.

An old disagreement with Great Britain about the extent of Norwegian territorial waters came to the fore through the Storting's decision (Sept 1, 1948) to enforce a royal decree of 1935, defining Norway's rights over areas not previously claimed. When negotiations failed (July 15, 1949) Britain referred the dispute to the International Court of Justice.

Education. Schools (1946) elementary 5,626, pupils 289,449, teachers 10,766, secondary 288, pupils 44,356, teachers 3,090 Technical schools (1947) day 9, pupils 1,823, teachers 233, apprentice 84, pupils 8,481, teachers 940, workshop 144, pupils 2,810, teachers 330 Two universities and 8 institutions of higher education (1948) students 7,743, professors and lecturers 730

Agriculture and Fisheries. Main crops ('000 metric tons, 1948, 1949 est in brackets) wheat 76 (61), barley 89, oats 177, rye 3 (3), potatoes 1,454 Livestock ('000 head, June 20, 1948) cattle 1,175, sheep 1,629, pigs 248, horses 206, poultry 4,663 Fisheries (1948) total catch 1 3 million metric tons, worth Kr 325 million Landings of herring (metric tons, 1948, 1949 in brackets) 820,292 (567,454), landings of cod 133,712 (112,995)

Industry. Industrial establishments (1947) 5,785, employing 186,774 manual and 28,942 salaried workers Fuel and power coal ('000 metric tons, 1948, 1949, six months, in brackets) 436 (300), gas ('000 cu m) 46,944 (25,721), electricity (million kwh) 12,445 (8,592) Raw materials (metric tons, 1948, 1949, six months, in brackets) pig iron 63,331 (36,258), pyrites 735,422 (420,945), ferrosilicon (calculated 45% basis) 43,991 (35,440), other ferro-alloys 94,862 (61,375), aluminium 30,157 (19,522), nickel 8,401 (5,716), zinc 42,000 (25,431), sulphur 78,479 (36,535), mechanical wood pulp for sale (wet basis) 562,129 (357,790), chemical wood pulp (dry basis) 390,219 (237,869) Other products (1947) nitrate of lime 473,098 metric tons, herring oil 243,433 hl , paper, pasteboard and cardboard 455,681 metric tons, canned fish and fish products 48,801 metric tons Building in 1948 was 120% of the best prewar years

Foreign Trade. (Million kroner, 1948, 1949, six months, in brackets) Imports 3,721 (2,376), exports 2,063 (1,286)

Transport and Communications. Roads (June 30, 1949) 44,247 km Licensed motor vehicles (Jan 1948) cars 62,578, lorries 46,396 Railways (June 30, 1948) state 4,474 km , private 83 km Shipping (Jan 1949) merchant vessels 5,136 (above 25 gross tons) totalling 4,680,000 tons Telephone subscribers (June 30, 1948) 400,200 Wireless licences (Oct 1, 1949) 709,116

Finance and Banking. (Million kroner) Budget (1948-49) revenue 2,782, expenditure 2,610, (1949-50 est) revenue 2,584, expenditure 2,320 National debt (Jan 1949, Jan 1948 in brackets) 6,090 (6,117) Currency circulation (June 1949, Dec 1948 in brackets) 2,116 (2,159) Gold reserve (June 1949, Dec 1948 in brackets) 185 (185) Savings and bank deposits (June 1949, Dec 1948 in brackets) 8,728 (8,267) Cost of living index, mid-1949, 163 (1938 100). The monetary unit is the *krone* (pl *kroner*) Exchange rates £1 Kr 20 00 and $1 Kr 7 14 (before Sept. 18, 1949 $1 Kr 4·96)

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NU, THAKIN, Burmese statesman (b. Wakema, Burma, 1906), became prime minister of Burma on Jan. 4 1948. (For his career see *Britannica Book of the Year 1949*).

In April he visited India and Pakistan for talks with Pandit Nehru and Liaquat Ali Khan. The cabinet was reshuffled in March 1949, Thakin Nu remaining prime minister and taking charge also of the defence and home portfolios; on a further re-organization in April, he resigned the Defence and Home ministries but took charge of the Ministry of National Planning.

NURI PASHA AS-SA'ID, Iraqi statesman (b. Baghdad, 1888). A Sunni Moslem, he graduated from the military college, Istanbul, in 1906, and from staff college, Istanbul, in 1911. In 1913 he helped to found the Arab secret society Al-Ahd and joined the Sharif Hussein of Hejaz as soon as he proclaimed the Arab revolt in 1916. He became chief of staff to the Hejaz army and later commander of the Northern Arab army. In 1919 he accompanied Prince Faysal to Paris to present the Arab case to the powers. He returned in 1921 to Iraq, where he was one of those who invited Faysal to become king, and was appointed chief of staff and, for a while, acting commander in chief. He was minister of defence in six cabinets, six times minister of foreign affairs and in 1930 became prime minister —a post which he afterwards held on numerous occasions. He negotiated and signed the 1930 treaty with Great Britain and was a member of the delegation which signed the abortive treaty of Portsmouth in 1948. He was much attacked as an Anglophile. He had to flee the country after the Bekr Sidgi coup d'état in Oct. 1936 and again after that of Rashid Ali in April 1941. In 1943 he circulated a confidential memorandum, in which he proposed the reunion of Syria, Lebanon, Palestine and Transjordan in one territory under the name of Greater Syria and their union with Iraq in a league. His subsequent discussions with the Egyptian prime minister Nahas Pasha led to the formation in 1945 of the Arab League (*q.v.*). After becoming prime minister again in Jan. 1949, he was reported to be sponsoring with Syria (and possibly also with Lebanon) under King Faysal II a union of Iraq which became known as the " fertile crescent " scheme. He resigned on Nov. 7. (C. Ho.)

NURSING. In Great Britain a comprehensive Nurses' bill was introduced into the House of Lords in April 1949 on behalf of the Ministry of Health. The bill refrained from attempting to lay down centrally the lines upon which the training of nurses should be modified and provided instead (i) freedom to experiment in nurse training; (ii) the separation of the finances of nurse training from that of the hospitals; and (iii) a more flexible constitution for the General Nursing council. This bill was the most important step taken since the Nurses Registration act of 1919, when the training of nurses in Great Britain had first been placed under the control of the General Nursing council and state registration introduced. It was now widely held that the old arrangements were too rigid and that they failed to give the necessary financial support to nurse training schools to enable them to afford the young nurse a satisfactory student status. The bill was intended to remedy these defects without disturbing the system of apprenticeship, which distinguished nurse training in Great Britain from that in the United States and the various schools on the American model.

Although there was still a shortage of nurses (estimated at 48,000, as against an existing staff of about 121,000 full-time and 20,000 part-time nurses), the position improved and there were 29,000 more nurses and midwives in Great Britain in 1948 than in 1938. The ratio of 10·67 staffed hospital beds per 1,000 of the population was quoted by the Division of Nursing of King Edward's Hospital fund as almost certainly the highest in the world; and it was added that probably the ratio of staff to beds in Great Britain was much higher than the average in other countries.



Five 15-year old girls at Fulham hospital where a cadet nursing scheme for girls between 15 and 18 was started in 1949.

In 1949 an Interim conference was held in Stockholm to mark the 50th anniversary of the International Council of Nurses. Thirty-two countries were represented and the subjects for discussion were: the Medicine of Tomorrow and the Position of the Nurse; Nursing Education—Methods of Clinical Instruction; and Nursing Service—How to meet the Demand. Sweden, Denmark, Norway, Iceland and Finland provided the speakers on the first; the United States of America, Canada and Norway on the second; and Great Britain, Holland, New Zealand and South Africa on the third. These papers and discussions revealed a strong resemblance between problems and attempted solutions in different countries and a resolution was passed urging experiments along all possible lines. (*See* also HOSPITALS; NATIONAL HEALTH SERVICE.) (A. G. L. I.)

NUTS. From the 1920s there had been a growing appreciation of the value of nuts as human food, and as a result of World War II this appreciation greatly increased on account of the universal shortage of edible oils or fats and of meat or protein. Nuts are richer in fat and protein than any other vegetable food and, properly utilized, constitute a highly nutritious food, but being a concentrated food with generally little water and crude fibre or roughage in their make-up, are liable to cause digestive disturbance if taken in quantity. They are therefore to be eaten along with other foods in the same way that cheese is usually eaten with bread.

The nut or nut kernel requirements of vegetarians in the British Isles were taken into consideration during the 1940s and certain classes of nut kernels specially imported for holders of vegetarian rations books. The range of varieties and the selectivity had been somewhat restricted, but was now widening though currency considerations still imposed limitations. Importation was sanctioned for supplies of certain types of nut in the shell from France, Spain, Italy, Sicily, Turkey, Syria and Brazil for the general public, and these nuts were again freely on sale in the shops. Restricted varieties included chiefly hazel kernels from the Levant, almond kernels from Italy and Sicily and cashew kernels

from India. American pecan nuts and the high quality walnuts from Californian nut groves which were so popular in Britain before World War II were not available on British and most European markets, and were unlikely to appear following the devaluation of the pound and other currencies that took place in the autumn of 1949.

Interest in the possibility of increasing supplies of English grown walnuts for the home market or for home consumption was maintained. This could only be done by selecting and propagating by grafting varieties of walnut that were well suited to English climatic conditions. Most of the trees throughout the country had been raised as seedlings, not grafted, and yielded poor quality nuts or were erratic in cropping. Experimental work showed that an important consideration was to choose varieties that were late in leafing out in spring and therefore more likely to escape injury from late spring frosts, an unfortunate feature of the English climate. The most promising of the imported (French) varieties were *Franquette*, *Mayette*, *Melanaise*, *Treyve* and *Chaberte*, and the most promising varieties of English origin, *Excelsior of Taynton*, *Northdown Clawnut*, *Secrett* and *Patchling*. The two last mentioned bore sound shelled, good nuts even in the extremely poor, wet season of 1946. The grafting of walnuts in the comparatively cool climate of Britain had always been a difficult matter; but by growing seedlings in pots and utilizing glass and bottom heat to stimulate callus formation a fair degree of success was obtained.

The fine hot summer of 1949 favoured nut production in many parts of the British Isles where established trees existed. Some very good samples of home-grown walnuts were produced. The chestnut crops in many European countries were also heavy. (F. N. H.)

NYASALAND. British protectorate in central Africa. Area: 47,949 sq. mi. Pop. (1947 est.): *c.* 2,300,000. Governor: Sir Geoffrey Colby.

Membership of the Legislative Council was increased from 13 to 19 by the addition of three officials and three (two African and one Indian) unofficial members, thus for the first time providing non-European representation on the council. Severe drought necessitated the introduction of large scale precautions against famine; emergency food imports were arranged and an African Foodstuffs commission was established to control supplies.

Finance and Trade. Budget (1949 est): revenue £2,734,033; expenditure £3,160,487. Foreign trade (1948): imports £4,340,468; exports £4,212,424. Principal exports: tobacco, tea and cotton. (J. A. Hu.)

OATS: *see* Grain Crops.

OBITUARIES: The following is a selected list of prominent men and women who died during 1949:—

Adams, James Truslow, U.S. historian (b. Brooklyn, New York, Oct 18, 1878—d. Southport, Connecticut, May 18), received his bachelor's degree at Brooklyn Polytechnic institute in 1898 and an M.A. at Yale in 1900. He entered business and in a few years was a partner in a New York stock exchange firm He retired from this career in 1912 to become a historian and in 1916 published a history of his home town of Bridgehampton, Long Island. During World War I he served with the intelligence division of the U S. general staff and was commissioned by Colonel E. M House to prepare data for the Paris peace conference. He afterwards resumed his writing on colonial American history and in 1922 won the Pulitzer prize for his *Founding of New England*, which was followed by other volumes on New England history. In 1929 *Our Business Civilization* received wide attention and was followed by *The Adams Family* (1930), *The Epic of America* (1931), perhaps Adams' best known work, and many other books. His last two works were studies of American life, *The American* (1944) and *Big Business in Democracy* (1946) Adams' literary activity was constant; and he was editor in chief of *The Album of American History*, *The Atlas of American History* and *The Dictionary of American History*, and was a contributor to *The Dictionary of American Biography* and the *Encyclopædia Britannica*.

Adams, William Thomas, British politician (b. Sept. 10, 1884—d. London, Jan. 9), elected M.P. for South Hammersmith, July 1945, held many posts in trade union and co-operative movements.

Allen, Hervey, American author (b. Pittsburgh, Pennsylvania, Dec. 8, 1889—d. Miami, Florida, Dec. 28), was best known as the author of *Anthony Adverse* (1933), a massive novel ranging over a wide field of history in several parts of the world. In addition to his novels he wrote eight books of poems. Among his early books was *Israfel* (1926), a study of the life and times of Edgar Allan Poe.

Amigo, Peter Emmanuel, Roman Catholic archbishop (b. Gibraltar, May 26, 1864—d. Southwark, London, Oct. 1), was ordained in 1888 and for four years taught at St. Edmund's college, Ware, where previously he had been educated. In March 1904 he was consecrated bishop of Southwark, and 1929 was nominated an assistant to the Pontifical throne in recognition of his intense personal devotion to the Holy See. In 1938, on the occasion of the golden jubilee of his ordination, he was accorded the title of archbishop.

Argyll, Niall Diarmid Campbell, 10th Duke of, British peer (b. Feb. 16, 1872—d Inveraray castle, Argyll, Aug. 20), succeeded to the dukedom in 1914. His many titles included those of Hereditary Master of the Royal Household in Scotland, Admiral of the West Coast and Isles, and chief of clan Campbell.

Bailey, Sir William Thomas, British newspaper director (b. Bedale, Yorkshire, Feb. 1, 1873—d. London, June 15), served in managerial capacities on *Northern Daily Gazette*, *Northern Echo*, *Sheffield Independent* and *Westminster Gazette*. He was a director of the Westminster Press Provincial Newspapers, Ltd, and from 1939 to 1946 president of the Newspaper society.

Barr, James, Scottish United Free Church minister and former M.P. (b. Beanscroft, July 26, 1862—d Glasgow, Feb. 24), was minister at Johnstone and Wamphray, 1889-96, and later at Dennistoun, Glasgow, and at Govan, Glasgow; home mission secretary of the Free Church, 1920-25, and moderator, 1929 and 1943 He was a Labour M P, 1924-31, and 1935-45.

Bates, Sir (Richard) Dawson, Northern Ireland politician (b Nov. 23, 1876—d Glastonbury, Somerset, June 9), was admitted a solicitor, 1900. He sat in the Northern Ireland House of Commons, 1921-43, and was home secretary for the same period.

Beasley, John Albert, Australian politician and diplomat (b Werribee, Victoria, Nov. 9, 1895—d Sydney, Sept 2), was educated at Werribee, and worked for the Sydney city council electricity supply department for some years. He was an active trade unionist and for seven years from 1921 was president of the New South Wales Labour council. From 1928 until 1946 he sat in the federal House of Representatives as member for west Sydney, and from 1929 to 1931 he was assistant minister for industry and external affairs in the government of J H. Scullin. In 1940, while leader of the non-Communist Labour party, he was appointed to the advisory war council, and in the following year his party merged with the Labour party under John Curtin. When Curtin became prime minister in Oct. 1941, Beasley was made minister of supply and shipping Because of ill-health he was given the less onerous post of vice-president of the executive council, Feb.-July 1945, and from July until December was minister of defence. He was then appointed minister resident in London, and in Aug. 1946 became high commissioner

Beaumont, Sir Henry Hamond Dawson, British diplomat (b Feb. 4, 1867—d. Fawley, Southampton, Dec. 15), entered the diplomatic service in 1892 and served in Montenegro, Athens, Constantinople and Rome. From 1916 to 1923 he was minister to Venezuela

Beery, Wallace, U S. actor (b Kansas city, Missouri, April 1, 1886—d Hollywood, California, April 15), left school to become an elephant trainer at a circus, then joined his brother in the chorus of a Broadway stage show. Within a short time he had replaced Raymond Hitchcock as the star of *The Yankee Tourist* In 1913 he joined the Essanay motion picture studios in Chicago, and from that year until his death acted in 250 pictures He was a comedian for the Keystone company in the early years in Hollywood, but by 1917 he had begun to be featured in villain roles. In his later career he generally played rough but kindly characters. He received an Academy Award in 1931 for his performance in *The Champ*.

Bell, Henry Thurburn Montague, British journalist (b. Colombo, Ceylon, July 10, 1873—d. Reading, Berkshire, Nov. 6), was editor, *North China Daily News and Herald*, Shanghai, 1906-11, editor in chief, *The Near East and India*, 1916-35, joint founder and editor, *China Year Book*, and editor, *The Near East Year Book*, 1927-31. He was editor of the *Annual Register 1946*.

Benelli, Sem, Italian poet and playwright (b. Prato, near Florence, 1877—d. Zoagli, Italy, Dec. 18), joined the staff of the *Rassegna Internazionale* and later became its editor in chief. He was elected to the Italian parliament and took part in World War I and in the Ethiopian campaign. His first success as a playwright was with *La Maschera di Bruto*. *La Cena delle Beffe* was produced in London in 1921 under the title *The Love Thief*. His later plays included *L'amore dei tre re*, *Rosmunda*, *Le Nozze dei Centauri*, *Caterina Sforza* and *L'Orchidea*. His impressions of the Ethiopian campaign were recorded in *Io in Africa*.

Bérard, Christian, French painter, illustrator and stage designer (b. 1903?—d. Paris, Feb. 12), was well-known for his stage, screen and ballet *décors*. A close friend of Louis Jouvet and Jean Cocteau, he did much designing for them, including the sets for Cocteau's film, *La Belle et La Bête*

Bergius, Friedrich Karl Rudolph, German chemist (b. near Breslau [Wrocław] Oct. 11, 1884—d. Buenos Aires, March 30), succeeded during World War I in producing synthetic oil from coal He also discovered the process for transforming wood into sugar. In 1931 he was awarded the Nobel prize for chemistry, jointly with Carl Bosch, "for their services regarding the invention and development of chemical high pressure methods."

Berryman, Clifford Kennedy, U.S. cartoonist (b. Versailles, Kentucky, April 2, 1869—d. Washington, Dec. 11.) drew his first cartoon for *The Evening Star* (Washington) in Feb. 1907 and remained with the

paper until his death. In 1944 he was awarded the Pulitzer prize for one of his political cartoons. (For an example of his work *see* UNITED STATES).

Biffen, Sir Rowland Harry, British botanist (b. 1874—d. Cambridge, July 12), was professor of agricultural botany at Cambridge, 1908-31, and professor emeritus from 1931. He was elected to the Royal Society in 1914, and awarded the Darwin medal in 1920

Black, James MacDougall, Scottish churchman (b. Rothesay, Isle of Bute, Jan. 25, 1879—d. Edinburgh, Oct. 18), was ordained in 1903. He was moderator of the general assembly of the Church of Scotland, 1938-39, and from 1942 had been chaplain to the King in Scotland.

Bloom, Sol, U.S. congressman b Pekin, Illinois, March 9, 1870—d. Bethesda, Maryland, March 7), had little formal education, but became a play producer in his early teens and when only 17 built his first theatre. He moved to New York and in 1903 entered the real estate business, building apartment houses and theatres. From 1923 he represented the 19th (later 20th) congressional district of New York. He was chairman of the foreign affairs committee of the House of Representatives from 1939 to 1947 and again in 1949.

Boyle, Sir Algernon Douglas Edward Harry, British admiral (b Oct. 21, 1871—d. London, Oct. 13), entered the Royal Navy in 1884 and served in World War I at Gallipoli, at Jutland and in the Zeebrugge and Ostend raids He was fourth sea lord, 1920-24, and from 1925 to 1929 was a member of the Port of London authority.

Burnaby, George Davy, British comedian (b Burkland, Hertfordshire, April 7, 1881—d. Rustington, Sussex, April 17), appeared in concert parties throughout Britian. The *Co-optimists* which was first produced in 1921 brought him before a very wide public. He also appeared in pantomime, films and musical comedies

Caclamanos, Demetrios, Greek diplomat (b. Nauplia, Greece, 1872—d. London, June 7), began his career in Athens as publisher and editor of a political and literary periodical *Asty* He entered the diplomatic service in 1907 and from 1918 until 1935 (with only a brief interruption in 1922) was Greek minister to London.

Cassidy, Sir Maurice Alan, British physician (b. Lancaster, Feb 29, 1880 - d London, Oct. 22), was educated at Clare college, Cambridge, and St. Thomas's hospital, London. He had an extensive private practice in London, but was also consulting physician to St. Thomas's hospital, to Lord Mayor Treloar's Cripples' hospital at Alton, and to King Edward VII sanatorium at Midhurst. He had been physician-in-ordinary to King George V, King Edward VIII, and King George VI, and was one of the doctors who attended King George during his illness in 1949 He was injured in a car accident in April 1949 and never fully recovered. He was created a K.C.V O. in 1934, and in 1949 was promoted to G C V O Being too ill to visit Buckingham palace, he was invested with the decoration by the King at his house in Montagu square, London. He was recognized as being one of the greatest authorities on diseases of the heart.

Cerdan, Marcel, French boxer (b Sidi-bel-Abbes, Algeria, July 22, 1916-d. [in an air crash] Algarvia, Azores, Oct. 28), won the world middleweight boxing championship by defeating Tony Zale on Sept. 21, 1948. He lost his world title to Jake La Motta in New York in June; he was flying to New York to fight La Motta again when his plane crashed in the Azores In the 110 fights of his career Cerdan had lost only two outright and had been disqualified in two. Handsome, good-humoured and happily married, he had an immense following in France and his popularity compared with that of Georges Carpentier.

Charlemont, James Edward Caulfeild, 8th Viscount (b. May 12, 1880—d. Newcastle, county Down, Aug. 30), was elected to the Northern Ireland Senate in 1925, and in Jan. 1926 succeeded Lord Londonderry as leader of the Senate and minister of education. He retired from these offices in 1937. He was also an Irish representative peer.

Chester, Sir George, British trade union leader (b. Jan. 16, 1886—d. Earls Barton, Northamptonshire, April 21), was a member of the T.U C. general council from 1936, and a director of the Bank of England from March, 1949.

Christopherson, Stanley, British banker (b. Blackheath, Kent, Nov. 11, 1861—d. London, April 6), was on the London stock exchange, 1882-99, and subsequently became director of many public companies and chairman of the Midland Bank He played cricket for England in 1884 and was president of the M C C., 1939-45.

Clynes, John Robert, British politician (b Oldham, Lancashire, March 27, 1869—d. London, Oct. 23), received little formal education, and at the age of ten began work in a cotton mill. He left the mill at 24 and became assistant organizer for the Lancashire district of the National Union of Gas Workers and General Workers. Later he was appointed district secretary, holding the position until 1917. He was an early member of the Independent Labour party, and in 1906 he was elected to the House of Commons for the north east (later Platting) division of Manchester. Except for the four years 1931-35 he continued to represent Platting until his retirement in 1945. In June 1917 he was appointed parliamentary secretary to the Ministry of Food, and from 1918 to 1919 was food controller. He became leader of the Parliamentary Labour party in 1921, but in the following year was defeated by Ramsay MacDonald by five votes. He was lord privy seal in the first Labour government, 1924, home secretary, 1929-31, but remained loyal to the Labour party when in Aug. 1931 Ramsay MacDonald formed his national government. In 1947 he revealed that he was living in very straitened circumstances and a fund was raised by members of the House of Commons. His autobiography was published in 1937.

Cobham, John Cavendish Lyttelton, 9th Viscount, British politician (b. Oct. 23, 1881—d. Stourbridge, Worcestershire, July 31), was Unionist M.P. for Droitwich, 1910-16. He was president of the Marylebone Cricket club in 1935 and treasurer from 1938.

Cooper, Frank Arthur, Australian politician (b. Blayney, New South Wales, July 16, 1872—d. Brisbane, Nov. 30), was first elected to the Queensland legislative assembly in 1915. He was prime minister of Queensland, 1942-46, and lieutenant governor from 1946.

Copeau, Jacques, French dramatist (b. Paris, Feb. 29, 1879—d. Beaune, Côte d'Or, Oct 21) was educated at the Lycée Condorcet. One of the founders of the *Nouvelle Revue Française* (1908), he was a friend of André Gide and Jacques Rouché and wrote a stage version of Fyodor Dostoyevsky's *Brothers Karamazov* for the latter. He became manager of the Vieux Colombier theatre (1913), and apart from a break during World War I he produced plays there until he retired in 1924. He continued, however, to give special performances with a little group later known as " La Compagnie des Quinze " whom he trained.

Cousins, Arthur George, British newspaper chairman (b Braunton. Devon, 1882—d. Henley-on-Thames, Oxfordshire, Sept. 25), was for many years managing director of Investment Registry, Ltd., and a director of Odhams Press. On the death of Lord Southwood in 1946 he succeeded him as chairman of Odhams Press, and Daily Herald (1929) Ltd

Cox, Lionel Howard, British major general (b. April 1, 1893—d Athens, July 29), was commissioned in the Gloucestershire Regiment, 1912, and served in France during World War I He was in Iraq, 1919-20, and later served in India, Egypt and Malta In World War II he saw active service in Malta and the far east. He retired from the army in 1948 and was appointed deputy chief of the British delegation to the United Nations Balkan committee.

Dalal, Sir Ardeshir Rustomji, Indian industrialist (b Bombay, April 24, 1884—d Bombay, Oct. 8), was director of Tata Iron and Steel company, the largest industrial concern in India, and from 1944 to 1946 was a member of the viceroy's executive council.

Damaskinos (GHEORGHIOS PAPANDREOU), archbishop of Athens and primate of Greece (b Dorvitsa, March 3, 1891—d. Psychiko, near Athens, May 20), was of peasant stock. He was educated at the high school at Karditsa and the University of Athens. Discarding his baptismal name when ordained priest in 1917, he was appointed superior of the monastery of Penteli. After reorganizing its institutions, he performed a similar duty at the monasteries on Mount Athos in 1918. In 1922 he was elected bishop of Corinth. His election as archbishop of Athens and primate of Greece by the Holy Synod of the Greek Orthodox church, was anulled by Ioannis Metaxas for opposition to the regime, and he was exiled to a mountain monastery During the German-Italian occupation of Greece he was invited in 1942 to assume the office to which he had been elected, and he rapidly emerged as a spiritual leader. After the Communist rebellion of Dec 3, 1944, King George II surrendered his powers provisionally to Damaskinos who was appointed regent on Dec. 29. During his visit to London in Sept 1945 it was decided that, before a plebiscite to determine whether Greece should be a monarchy or a republic, a general election should be held. Two months later, in Athens, an agreement was reached to hold the election on March 31, 1946, but Damaskinos, against the opposition of the king, suggested postponing the plebiscite to 1948. The election resulted in a decisive royalist victory, which was confirmed by the plebiscite of Sept. 1, 1946. On Sept. 27 King George returned to the country and Damaskinos thereafter took no direct part in political life.

Daryngton, Herbert Pike Pease, 1st Baron, of Witley, Surrey, British politician (b. May 7, 1867—d. London, May 10), was M.P. for Darlington, 1898-1923, when he was created a peer. He was assistant postmaster-general 1915-22, an ecclesiastical commissioner from 1923, and chairman of the house of laity of the Church assembly.

De Pencier, Adam Urias, Anglican archbishop (b. Burritt's Rapids, Ontario, Feb. 9, 1866—d Vancouver, British Columbia, May 31), was ordained in 1890. He was archbishop of New Westminster, 1910-40, becoming metropolitan of British Columbia in 1925.

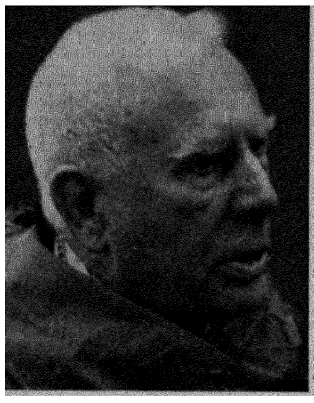
Derwent, George Harcourt Vanden-Bempde-Johnstone, 3rd Baron, of Hackness, British author and diplomat (b Oct. 22, 1899—d. Paris, Jan. 12), was honorary attaché at Warsaw (1923), Brussels (1927), Madrid (1928), Berne (1940). He wrote two volumes of poetry and essays on Prosper Merimée, Goya and Rossini.

Descaves, Lucien, French novelist (b. Paris, March 18, 1861—d. Paris, Sept. 6). Entering journalism under the guidance of Alphonse Daudet, he became famous through the publication of his fifth novel *Sous-Offs* (1889), which involved him in a law-suit with the state; he was accused of insulting the army, but won his case. The Paris Commune inspired two of his novels, *La Colonne* (1901) and *Philémon, vieux de la vieille* (1912). In 1903, he was elected one of the ten original members of the newly founded *Académie des Goncourt*, the most exclusive of French literary circles. Later he turned towards the theatre where he had several successes, among them *Oiseaux de passage* (1904 in collaboration with Maurice Donnay) and *L'Attentat* (1906, with Alfred Capus). His last work was a book of memoirs entitled *Souvenirs d'un ours.*

Diaz Arosemena, Domingo, Panamanian politician (b. June 25, 1875—d. Panama, Aug. 23), was elected president on May 9, 1948, but the results of the election were not announced until Aug. 7 owing to allegations of fraud He took office on Oct. 1, 1948, but because of ill-health was granted six months' leave of absence from July 28, 1949.

Dickson, William Kirk, British librarian (b. Edinburgh, Nov. 24, 1860—d. Edinburgh, July 14), was appointed keeper of the Advocates' library, Edinburgh, in 1906 and from 1925 to 1931 was the first librarian of the national library of Scotland.

Dimitrov, Gheorghi, Bulgarian politician (b. Kovachevtsi, near Radomir, Bulgaria, June 18, 1882—d. near Moscow, July 2), joined in 1902 the Social Democratic party which in the following year divided into reformist or " broad " and revolutionary or " narrow " wings Dimitrov sided with the " narrows " who were followers of the Russian bolsheviks. In 1913 he was elected deputy to the Bulgarian National Assembly, and four years later was imprisoned for opposing Bulgaria's participation in World War I. In 1919 the " narrow "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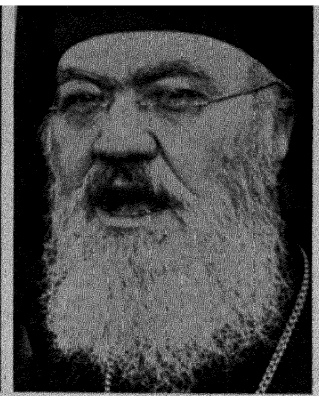
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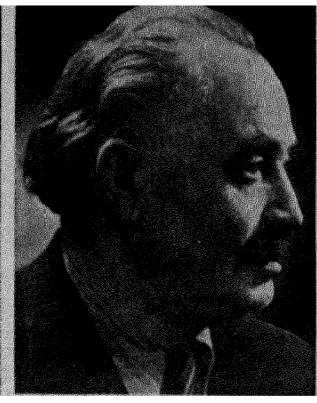

Gheorghi Dimitrov


Mrs. Flora Drummond

Social Democrats reorganized themselves as the Bulgarian Workers' (Communist) party with Dimitrov and Vasil Kolarov as its leaders. By the end of 1920 Dimitrov reached Russia to take part in the third congress of the Comintern (1921), which elected him a member of its executive committee. Escaping into Yugoslavia after an abortive attempt to overthrow the Bulgarian government in Sept. 1923, Dimitrov was tried in his absence and sentenced to death. Under an assumed name he lived in Vienna as head of the Balkan section of the Comintern until 1929 when he was transferred to Berlin as leader of the Central European section. On March 9, 1933, he was arrested in the German capital and charged with complicity in the burning of the Reichstag. Though acquitted on Dec. 23, 1933, he was released from prison only on Feb. 27, 1934, when he left for Moscow. In 1935 he was appointed secretary general of the Comintern and held office until its official dissolution in 1943. In 1937 he was elected deputy of the Supreme Soviet. He returned to Bulgaria on Nov. 6, 1945, to transform the country into a communist republic. He was allowed to renounce his Soviet citizenship, adopted before the war, and reverted to Bulgarian nationality. On Nov. 22, 1946, he was appointed prime minister. In April 1949 it was announced that he had gone to the U.S.S.R. for medical treatment. He died three months later in the Barvikha sanatorium, near Moscow. His body was sent to Sofia and on July 10 was laid in a temporary mausoleum.

Dix, Richard (Ernest Carlton Brimmer), United States actor (b. St. Paul, Minnesota, July 18, 1895—d. Hollywood, California, Sept. 20), began his film career as a featured player in *Not Guilty*. He appeared in about 200 productions in 25 years, winning greatest praise for his roles in pictures portraying episodes in the settling of the west.

Dodd, Francis, British painter (b. Holyhead, Anglesey, Nov. 29, 1874—d. Blackheath, London, March 7), was trained at the Glasgow School of Art and later studied in Paris and Italy. He settled in Manchester and in 1904 moved to London. He was elected to the New English Art club in 1904, became an A.R.A. in 1927 and an R.A. in 1935.

Drummond, Mrs. Flora, British suffragette leader (b. Manchester—d. Carradale, Argyllshire, Jan. 17), was active in the suffragette movement as a speaker and organizer. For her actions on behalf of the movement she served many prison sentences. On one occasion she invaded the cabinet room at No. 10 Downing Street during a sitting of the cabinet. She founded the Women's Guild of Empire in 1920, was for many years its controller-in-chief and continued as chairman until her death.

Dullin, Charles, French actor-producer (b. Yenne, Savoy, 1885—d. Paris, Dec. 11), made his first appearance at the Théâtre des Arts, Paris, in 1910 in *Le Carnaval des Enfants* after performing in show-booths at fairs, in the street and in cafés. He remained at the Théâtre des Arts for a few years and then joined Jacques Copeau's company at the Vieux Colombier before founding his own company of actors. In 1922 he gave his first Parisian season at the small workshop-theatre, L'Atelier, and remained there for nearly twenty years.

Dunne, John William, British aviation pioneer and philosopher (b. 1875—d. Banbury, Oxfordshire, Aug. 24), developed the stable, tailless type of aerofoil in 1904, and in 1907-8 his military aeroplane was tested by the War Office. Successful tests in 1912 on another machine failed to impress the War Office, and he flew the monoplane across the channel to France in 1913 where he sold the rights of the design to a French syndicate. His book *An Experiment with Time*, which appeared in 1927, attracted considerable attention. In it he recorded experiences which had led him to believe that future events are regularly foreseen in dreams, and with mathematical argument he elaborated his philosophy of "serialism." Later books on the same theme were *The Serial Universe* (1934), *The New Immortality* (1938) and *Nothing Dies* (1940).

Dunstan, Sir Wyndham Rowland, British agricultural chemist (b. Chester, 1861—d. April 20), was director of the Imperial institute, London, 1903-24, having previously been a lecturer at Oxford and later professor of chemistry at St. Thomas's hospital, London.

Du Parcq, Herbert du Parcq, Baron (life peer), of Grouville, Jersey, British lord of appeal (b. St. Helier, Jersey, Aug. 5, 1880—d. London, April 27), was educated at Victoria college, Jersey, and Exeter college, Oxford. He was called to the bar in 1906, and in the same year was admitted to the Jersey bar. In 1926 he was appointed a King's counsel. He was recorder of Portsmouth, 1928-29, and of Bristol, 1929-32. In the latter year he was made a judge of the high court and in 1938 a lord justice of appeal. In 1946 he was appointed a lord of appeal in ordinary and granted a life peerage. In Jan. 1932 he was called upon by the home secretary to report on disturbances which had occurred in Dartmoor prison. He served on the Committee on Persistent Offenders in 1931, and in 1946 was appointed chairman of the Royal Commission on Justices of the Peace.

Eason, Sir Herbert Lightfoot, British surgeon (b. July 15, 1874—d. London, Nov. 2), was senior ophthalmic surgeon, Guy's hospital, and dean of the medical school. He was vice-chancellor of the University of London, 1935-37, and president of the General Medical council from 1939. He was knighted in 1943.

Eddy, Sir Montague John, British railway administrator (b. 1881—d. Ryde, Isle of Wight, Dec. 22), was chairman or director of a number of railway companies in Argentina. He was knighted in 1944.

Ellis, Sir (Samuel) Howard, New Zealand born lawyer (b. June 2, 1889—d. Cambridge, New Zealand, Jan. 19), was called to the New Zealand bar in 1912 and to the Fiji bar the same year. He practised in Fiji and in 1942-45 was director of manpower and national service in Fiji.

Ensor, James, Belgian painter (b. Ostend, April 13, 1860—d. Ostend, Nov. 19), the son of an English father and a Flemish mother, he later took over their shop in Ostend for the sale of sea shells and souvenirs. With the exception of three years at the Brussels academy he lived in Ostend throughout his life. He was essentially a painter of the fantastic and macabre in the persistent Flemish tradition of Jerom Bosch and Pieter Bruegel. His most ambitious work was "Entry of Christ into Brussels" (1888), a huge canvas packed with grotesque figures which he refused to sell. He painted also excellent seascapes, interiors and still-life subjects. He led an uneventful life and during World War II rumours of his death enabled him to hear obituaries broadcast in his honour. An exhibition of his work was held at the National gallery, London, in 1946.

Etherton, Sir George Hammond, British county clerk (b. 1878—d. Bracknell, Berkshire, Dec. 3), was town clerk of Portsmouth, 1908-20, town clerk of Liverpool, 1920-22, and clerk of the Lancashire County council, 1922-44. He was knighted in 1927.

Everard, Sir (William) Lindsay, British pioneer of private flying (b. 1891—d. Torquay, March 11), was M.P. for Melton, 1924-45.

Fisher, Sir Stanley, British lawyer (b. Feb. 12, 1867—d. Budleigh Salterton, Devon, May 28), was called to the bar in 1890, and in 1902 was appointed president of a district court in Cyprus. He subsequently served in Cairo, Trinidad and Ceylon, where he was chief justice from 1926 to 1930.

Forrestal, James Vincent, U.S. politician (b. Beacon, New York, Feb. 15, 1892—d. Bethesda, Maryland, May 22), studied at Dartmouth college and Princeton university, served in naval aviation in World War I and then was on the New York stock exchange until June 1940, when he became one of President Franklin D. Roosevelt's administrative assistants. In Aug. 1940 he was appointed under secretary of the navy and followed Frank Knox as secretary in May 1944. He was appointed first secretary of defence in 1947 but resigned in March 1949. He was suffering from depression, and on May 22 threw himself from a window in the naval hospital, Bethesda.

Fortune, Sir Victor Morven, British major general (b. Aug. 21, 1883—d. Dumfries, Jan. 2), served in World War I when he was awarded the D.S.O. In World War II he commanded the 51st (Highland) division in 1940 and was taken prisoner at St. Valéry-en-Caux.

Fraser, Sir (John) Malcolm, British journalist (b. Hampstead, Dec. 24, 1878—d. Poole harbour, Dorset, May 4), was editor of the *Evening Standard*, day editor *Daily Express* and editor in chief of the *Birmingham Gazette*. He was created a baronet in 1921 and was vice chairman of the Conservative party, 1937-38.

Galway, Sir Henry Lionel, British army officer and colonial and state governor (b. Sept. 25, 1859—d. London, June 17), was acting high commissioner, south Nigeria, 1900; governor of St. Helena, 1902-11; of the Gambia, 1911-14, and of South Australia, 1914-20.

Giraud, Henri Honoré, French general (b. Paris, Jan. 18, 1879—d. Dijon, France, March 11), was educated at the St. Cyr military academy and served as a captain of Zouaves in World War I. Wounded and taken prisoner, he subsequently escaped from a German prison camp—a feat he repeated in World War II. He served as second in command to Marshal Louis Lyautey in the Rif campaign in north Africa in 1925-26, and was commander of the unit that received the surrender of the Moroccan leader, Abd-el-Krim. At

the start of World War II he was military governor of Metz, and he later took command of the 7th French army group Captured by the Germans during their break-through in 1940, he escaped in April 1942 and immediately reported to the Vichy government Later, however, he secretly pledged himself to the Allied cause, escaped from France in a British submarine, and was landed in Algiers the day before the Allied landings there On the day of the landings (Nov 8, 1942) he announced in a broadcast that he had taken command of all French troops in north Africa, and in December, after the assassination of Admiral Jean François Darlan, he was appointed high commissioner of French North Africa In May 1943 an agreement was reached to set up the French Committee of National Liberation with General Charles de Gaulle and Giraud as joint chairmen In November the provisional Consultative Assembly was formed and Giraud left the Committee of National Liberation though he remained commander in chief until April 1944 Later he sat for a time as deputy for Metz in the Constituent Assembly A few days before his death he received the Médaille Militaire

Gollan, Sir Henry Cowper, British colonial lawyer (b Coquimbo, Chile, Jan 8, 1868 d London Aug 5), was called to the bar, 1891, and served as attorney general and then as chief justice of Northern Nigeria He later served in similar capacities in Bermuda, Trinidad, Ceylon and Hong Kong He was knighted in 1921

Goodman, Paul, British zionist worker and author (b Tartu, Estonia, April 10, 1875– d London, Aug 13), went to Britain in 1891 In 1895 he was appointed assistant secretary of the Spanish and Portuguese Jewish congregation, and in 1910 succeeded Samuel Cohen as secretary He held many posts in the Zionist Federation of Great Britain and in international zionist bodies, and was a member of the council of the Jewish Agency for Palestine His first book was *The Synagogue and the Church* (1908) and was followed by many others, including *A History of the Jews* (1911, 7th ed 1939), *Moses Montefiore* (1925), *Theodor Herzl* (1927), *Zionism in England* (1930) and, under his editorship, *The Jewish National Home* (1943)

Gordon-Watson, Sir Charles Gordon, British surgeon (b April 18, 1874 d York, Dec 19), was governor and consulting surgeon, St Bartholomew's hospital, London He had been a vice president of the Royal College of Surgeons, and from 1939 to 1942 was consulting surgeon to the army

Gour, Sir Hari Singh, Indian lawyer and politician (b Saugor, Central Provinces, Nov 26, 1872 d Saugor, Dec 25), entered the Indian Legislative Assembly in 1921 and became leader of the National party He was vice-chancellor of Delhi university, 1923-27, and of Nagpur university, 1936-38 He was created a knight in 1925

Grabski, Stanisław, Polish politician (b Borow, near Łowicz Poland, April 5, 1871 d Sulejowek, near Warsaw, May 6), was educated at the universities of Warsaw, Berlin and Berne, and the School of Political Science in Paris In 1910 he was appointed professor of political economy at the University of Lwow At the beginning of World War I he took refuge in Moscow, but after the Communist revolution left for Paris where he became a member of the Polish National committee presided over by Roman Dmowski After the armistice of Nov 11, 1918, Dmowski sent him to Warsaw to discuss with Joseph Pilsudski the formation of a national government and the appointment of a Polish delegation to the Paris Peace conference Elected a member of the constituent Sejm, Grabski opposed Pilsudski's plan for a federal Polish republic As a member of the Polish delegation to negotiate peace with Soviet Russia, he played a prominent part in establishing the new frontier by the peace treaty of Riga (March 18, 1921) Grabski was twice minister of education and religious affairs (1923 and 1924-26) After the Pilsudski *coup d'etat* of May 1926, he withdrew from politics, continuing to teach at the University of Lwow He was arrested by the Soviet police in Oct 1939 and sent as a political prisoner to Moscow He was freed two years later and went to London where in 1942-44 he was chairman of the Polish National council

Graham, Sir Ronald William, British diplomat (b London, July 24, 1870 d London, Jan 26), was minister to Holland, 1919-21, ambassador to Italy 1921-33 and director of the Suez Canal Co, 1939-45

Graham-Harrison, Sir William Montagu, British lawyer (b Feb 4, 1871 d London, Oct 29) was created a K C B in 1926 and appointed K C in 1930 He was first parliamentary counsel to the Treasury, 1928-33, and after his retirement was chancellor of the dioceses of Durham, Truro and Portsmouth

Grant, William, Northern Ireland politician (b Belfast, 1883– d Belfast, Aug 15), was first elected to the Northern Ireland House of Commons in 1921 He served as minister of public security, 1941-43, minister of labour, 1943-44, and minister of health and local government from 1944

Gratke, Charles Edward, U S journalist (b Astoria, Oregon, Aug 11, 1901 –d [in an air crash] near Bombay, India, July 12), worked on his father's *Astoria Evening Budget*, then on the *Detroit News*, the *Portland Oregonian* and the *Oregon City Enterprise* He became foreign editor of the *Christian Science Monitor* in 1937, after having served on that paper's foreign staff in Berlin during the rise of Hitler He won the annual award of Sigma Delta Chi in 1946 for his survey of Germany under the U S occupation

Green, George Alfred Lawrence, South African journalist and editor (b Portsmouth, 1868 –d Capetown, Aug 10), settled in South Africa in 1894, joining the *Cape Times* He edited the *Diamond Fields Advertiser*, 1898-1910, and the *Cape Argus* from 1910 until he retired in 1937 He sat in the House of Assembly for Kimberley, 1908-10

Guggenheim, Solomon R., American industrialist (b Philadelphia, Feb 2, 1861—d Port Washington, New York, Nov 3), with his brothers was one of the leading copper magnates in the world He was a generous art patron and established the Guggenheim foundation for the promotion of modern art

Hajir, Abdol Hossein, Persian statesman (b 1897?—d [assassinated] Tehran, Nov 5), was prime minister from June 13 to Nov 8, 1948 He was finance minister in the cabinet of Ahmad Qavam-es-Saltaneh, 1946-47, and had previously held the portfolios of interior, commerce and industry, and roads and communications As prime minister he enforced the strict observance of Ramadan and was afterwards minister at court On Nov 4, 1949, in Tehran, he was shot at close range and died the following day

Halsey, Sir Lionel, British admiral (b Feb 26, 1872 d Biggleswade, Bedfordshire, Oct 26), served on land in the South African War with naval guns, in World War I in actions at Heligoland, Dogger bank and Jutland, and as third sea lord, 1917-18 He commanded the Royal Australian Navy, 1918-22, and was chief of staff and later comptroller and treasurer to the Prince of Wales, 1919-36.

Hammerton, Sir John Alexander, British editor (b Alexandria, Scotland, Feb 27, 1871 d. London, May 12), joined the *Scottish Reformer* in 1888 and then edited papers in Blackpool, Nottingham and Birmingham, going to London in 1900 He edited the *Diccionario Hispano—Americano* in South America, and during World War I *The War Illustrated* and *The Great War* Similar records were edited by him during World War II Other reference works included *Harmsworth's Universal Encyclopaedia* and *Universal History of the World* He was the author of many books, and from 1945 was president of the Robert Louis Stevenson club

Hammond, John Lawrence Le Breton, historian and journalist (b Drighlington, Yorkshire, July 18, 1872—d Hemel Hempstead, Hertfordshire, April 7), was educated at Bradford grammar school and St John's college, Oxford In 1899 he became editor of the Liberal weekly *Speaker* and later worked on the staffs of the *Tribune* and of the *Daily News* In World War I he was at first commissioned in the R F A and later worked in the Ministry of Reconstruction. At the peace conference he was special correspondent for the *Manchester Guardian* and later he contributed frequently to that paper, working from 1939-45 in its Manchester offices He had married, in 1901, Barbara Bradby who was his collaborator in much of his work and notably in the historical trilogy on the conditions of the labouring classes during the industrial revolution The three works, which appeared between 1911 and 1919 were *The Village Labourer*, *The Town Labourer* and *The Skilled Labourer*, their impact was considerable for they contained much new material and threw new light on the period J L and Barbara Hammond also wrote books on *Lord Shaftesbury* (1923), *The Rise of Modern Industry* (1925) and *The Age of the Chartists* (1930) while J L Hammond was the biographer of Charles James Fox (1903) and C P Scott (1934) and author of *Gladstone and the Irish Nation* (1938) Oxford university conferred the honorary degree of D Litt on both husband and wife simultaneously in 1933, and Hammond was also in 1944 made a fellow of the British Academy and had the honorary degree of D Litt of Manchester university conferred on him (*See* also *Encyclopædia Britannica*)

Handley, Tommy, British radio comedian (b Liverpool, Jan 12, 1896 – d London, Jan 9), obtained his first professional engagement in *Maid of the Mountains* in 1917 After the war he toured in revues and his first Royal Command performance was in a sketch *The Dis-orderly Room* He first broadcast in 1924 and subsequently appeared regularly before the microphone sometimes as "Mr Murgatroyd" in "Murgatroyd and Winterbottom" with Ronald Frankau At the time of his death he was immensely popular as a result of his weekly radio programme ITMA (*It's That Man Again!*) Started in 1939 and continued with short seasonal breaks for ten years, the programme celebrated its 300th performance in Oct 1948 ITMA was essentially Tommy Handley's programme and went on the air for what proved to be the last time on Jan 6, three days before his sudden death The King and Queen were among those who sent messages of sympathy to Mrs Handley Memorial services were held in St Paul's cathedral, London, and in Liverpool cathedral

Harald, Christian Frederik, Danish prince (b Charlottenlund, Denmark, Oct 8, 1876 d March 30), was brother of King Christian X of Denmark and King Haakon VII of Norway

Hawkesworth, Sir Edward Gerald, British colonial administrator (b 1897 d London, Aug 14), served in the colonial service in Nigeria from 1921 to 1941, when he was appointed chief commissioner at Ashanti, Gold Coast From 1947 to 1948 he was governor and commander in chief, British Honduras

Hay, John Primrose, British politician (b Coatbridge, 1878 –d Glasgow, Dec 5), was lecturer in mathematics, Manchuria Christian college, Mukden, 1906-15 He was Labour member of parliament for Cathcart division of Glasgow, 1922-23

Hay, Will, British comedian (b Dec 6, 1888—d London, April 18), went on to the stage in 1909 and into films in 1934 and played the rôle, in his comedies, of "headmaster of St Michael's" He was also an amateur astronomer and during World War II served in the R N V R as an instructor.

Heaton, Sir John Frederick, British motor transport pioneer (b Oct 18, 1880 d Croxley Green, Hertfordshire, April 27), took an active part in the inauguration and development of many provincial bus services He was chairman and managing director of Thomas Tilling, Ltd and chairman of many other road transport companies.

Hicks, Sir (Edward) Seymour, British actor (b. St Helier, Jersey, Channel Islands, Jan 30, 1871—d Fleet, Hampshire, April 6), was intended by his parents to enter the army but after passing his preliminary examinations he gave up all thought of a military career and, to the displeasure of his father, went on the stage From 1889 to 1891 he toured Great Britain and the United States with Mr and Mrs Kendal In 1901 his play *Bluebell in Fairyland* made a great success with his wife Ellaline Terriss in the name part He later wrote other musical plays including *The Catch of the Season* (with Cosmo Hamilton) in which he played the lead He built the Aldwych theatre, opened it in 1905, and in the next year he built the Globe During

World War I he organized concert parties for the troops in France. In March 1922 he appeared in one of his most characteristic and successful parts *The Man in Dress Clothes* (an adaptation from the French). He wrote several books of autobiography and memoirs and in *Vintage Years* (1943) he looked back with regret to the Edwardian era. He was knighted in 1935. In 1939 he became controller of ENSA (Entertainments National Service association) and in 1940 chairman of the Advisory Production council.

Holmes, William Barry, English rugby footballer (b. Buenos Aires, Argentina, Jan. 6, 1928—d. Salta, Argentina, Nov. 8?) played for Cambridge against Oxford in 1947 and 1948 and for England against Scotland, Ireland, Wales and France. He toured Argentina in a combined university side in 1948 and returned in 1949 to live in Salta. He died of typhoid fever within a week.

Horsnell, Horace, British playwright, novelist and dramatic critic (b. St. Leonards, Sussex, June 12, 1882—d. London, Feb. 10), was dramatic critic to *Outlook* (1927-28), *Punch* (1930-31), *Observer* (from 1920) and *Tatler* (from 1942). He wrote five novels and several plays including *Advertising April* (with Herbert Farjeon).

House, George, British politician (b. March 7, 1892—d. London, Feb. 8), started work as a printer and later became a trade union organizer. Was a member of the London County council and was elected M.P. for St. Pancras, North, in July 1945.

Hubback, Eva Marian, British college principal (b. 1886—d. London, July 15), was a daughter of Sir Meyer A. Spielman and was educated at St. Felix school, Southwold, and Newnham college, Cambridge, where she graduated in 1908. She was appointed principal of Morley college for working men and women, London, in 1927. She worked for many years with Lord Simon of Wythenshawe and published in collaboration with him *Education in Britain* and *The Population of Britain.* In 1946 she was elected to the London County council.

Hughes, Arthur Walter, Roman Catholic archbishop (b. London, Aug. 25, 1902—d. Ewell, Surrey, July 12), was ordained in 1927, and in 1933 went out to the White Fathers mission in Uganda. In 1943 he became regent of the apostolic delegation in Egypt, being consecrated titular bishop of Hieropolis in May 1945, and two years later was promoted titular archbishop of Aprus and nominated apostolic internuncio at Cairo.

Hyde, Douglas, (known in Ireland as *An Craoibhin Aoibhinn*—the delightful little branch) Irish statesman, historian, poet and student of folklore (b. Frenchpark, Co. Roscommon, Jan. 17, 1860—d. Dublin, July 12), was the son of the Rev. Arthur Hyde, canon of Elphin and rector of Tibohine, and was educated at Trinity college, Dublin. From his earliest days he acquired a love for the Irish language, which at that time was neglected by scholars, and in 1878 he joined the Society for the Preservation of the Irish Language. Later he left the society and started the Gaelic union which published the first periodical in the Irish language. In the nineties he travelled throughout Ireland campaigning to make the people realize the importance of Irish. He founded the Gaelic league in 1893 and held the position of president until 1915. In Nov. 1905 he left on a tour of the United States where he created great interest in the Gaelic league; he returned in June 1906 having collected £11,000. He was elected a senator in 1925 and again in 1938. When the new constitution was created in 1937 all parties agreed on the election of Hyde as the first president of Ireland. He held office from June 25, 1938, until June 25, 1945, when he was succeeded by Seán O'Kelly. In 1891 he was interim professor of modern languages at the University of New Brunswick, Canada, and from 1909 to 1932 was professor of modern Irish in the National University of Ireland. His first publication appeared in 1889 and his last in 1939. Amongst his works in English were *Story of Early Gaelic Literature* (1895), *A Literary History of Ireland* (1899) and *Mediaeval Tales from the Irish* (1899). He also wrote many books, poems and plays in Irish and in *Mise agus an Connradh* (1938) he told of his association with the Gaelic league. (*See* also *Encyclopædia Britannica.*)

Igglesden, Sir Charles, British author and journalist (b. Ashford, Kent, 1861—d. Ashford, June 26), became editor of the *Kentish Express* in 1881 and continued to edit the paper for 68 years.

Imms, Augustus Daniel, British entomologist (b. Aug. 24, 1880—d. Sidmouth, Devon, April 3), held posts in India, 1907-13, and at Manchester university. He was chief entomologist at Rothamsted Experimental station, 1918-31, and reader in entomology at Cambridge, 1931-45. His books included *General Text-book of Entomology* (1925), *Recent Advances in Entomology* (1930) and *Insect Natural History* (1947).

Inskip, James Theodore, Anglican bishop (b. Clifton, Bristol, April 6, 1868—d. Loughton, Essex, Aug. 4), was ordained in 1891 and became curate of St. James', Hatcham, London. Later he was vicar at Penzance, Leyton, Jesmond and Southport, and, from 1919 to 1948, bishop suffragan of Barking. Among his works were *The Pastoral Idea* (1905), *Evangelical Influence in English Life* (1933), *The One Foundation* (1933) and his autobiography *A Man's Job* (1948).

Jaloux, Edmond, French novelist and critic (b. Marseilles, June 19, 1878—d. Lutry, near Lausanne, Switzerland, Aug. 22). His first novel, *l'Agonie de l'amour,* appeared in 1899. Ten years later he was awarded the Prix Fémina for *Le reste est silence,* which established his reputation, and during the next 40 years he wrote more than 20 novels, among them *Fumées dans la campagne* (1918), *l'Alcyone* (1925) and *Laetitia* (1929). Volumes of criticism included *l'Esprit des livres* (1923), *Figures étrangères* (1926) and *De Pascal à Barrès* (1928). In 1920 he won the Grand Prix de Littérature of the French Academy and in 1936 succeeded to the seat of Paul Bourget among the 40 "immortals." He was co-founder and co-editor of the *Deutsch-Französische Rundschau* in Berlin and the *Revue d'Allemagne* in Paris, which, after the signature of the Locarno agreement, tried to serve the cause of Franco-German reconciliation. After the capitulation of France in 1940 Jaloux crossed into Switzerland, where he wrote his last two novels and two volumes on the history of French literature.

Jelf, Sir Ernest Arthur, British lawyer (b. Oct. 3, 1868—d. Sept. 1), was called to the bar in 1893. He was appointed a master of the supreme court in 1914 and was King's Remembrancer and senior master, 1937-43. He edited the third edition of *Encyclopædia of the Laws of England* and was the author of many legal books and also of plays and ballets for children.

Jenkinson, Charles, Anglican vicar and housing reformer (b. 1887?—d. Leeds, Aug. 3), was vicar at Holbeck, Leeds, 1927-38, and minister at Belle Isle, Leeds, 1938-48. He served on the Leeds city council for many years, and was chiefly responsible for large slum clearance projects costing £12 million. He was a member of the Central Housing advisory committee, and from Sept. 1948, chairman of the Stevenage New Town Development corporation.

Jones, Thomas Gwynn, Welsh author (b. Bettws-yn-Rhos, Denbighshire, 1871—d. Aberystwyth, Cardiganshire, March 7), was professor of Welsh literature, University College of Wales and author of many plays, poems and biographies in Welsh and English, including *The Culture and Tradition of Wales* (1928) and *Welsh Folk-lore and Folk Custom* (1930).

Jordan, Sir Frederick Richard, Australian judge (b. London, Oct. 13, 1881—d. Sydney, Nov. 4), was appointed chief justice of New South Wales in 1934 and from 1938 was lieutenant governor.

Kershaw, Sir Leonard William, British barrister and court registrar (b. Nov. 18, 1864—d. Feb. 9), was called to the bar in 1886. He was registrar of the court of criminal appeal, 1912-33 and edited revised editions of *Russell on Crimes* and *Wise on Riots.*

Keynes, John Neville, British university lecturer (b. Salisbury, Aug. 31, 1852—d. Cambridge, Nov. 16), was for many years a lecturer in moral sciences at Cambridge university. He was a member of the council of the senate of the university, 1892-1924. One of his sons, John Maynard, later became Lord Keynes.

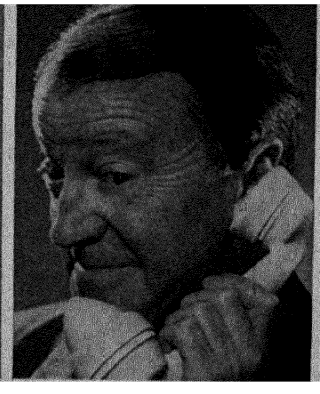
Kirke, Sir Walter Mervyn St. George, British general (b. Jan. 19, 1877—d. near Carlisle, Sept. 3), was gazetted in the Royal Artillery in 1896, and served in Burma, India, Europe during World War I, Finland and Hungary. In 1936 he was appointed director general of the territorial army and for a short period in 1939 he was inspector general of home defences. From then until May 1940 he was commander in chief, home forces.

Kirwan, Sir John Waters, Australian politician (b. Dec. 2, 1866—d. Perth, Sept. 9), emigrated to western Australia in 1895 and eventually became editor of the *Kalgoorlie Miner* and the *Western Argus.* He was one of the first representatives of western Australia in the federal House of Representatives, and from 1908 to 1946 sat in the legislative council of western Australia, being its president, 1926-46.

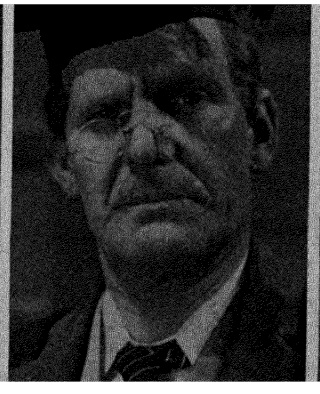
Knickerbocker, Hubert Renfro, U.S. journalist (b. Yoakum, Texas, Jan. 31, 1898—d. [in an air crash] near Bombay, July 12), was educated at Southwestern university, Georgetown, at Columbia university and



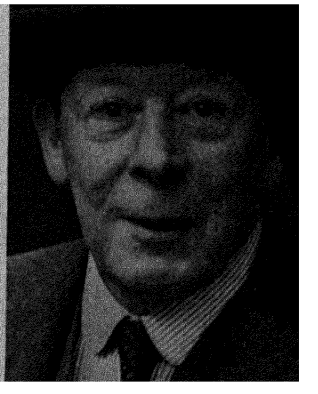
General Henri Giraud.



Tommy Handley.



Will Hay.



Sir Seymour Hicks.

later at Munich and Berlin. He began newspaper work on the *Newark Morning Ledger* in 1920. As a foreign correspondent he reported from the Soviet Union, winning the Pulitzer prize in 1931 for his reports on the purge trials; he covered the wars in Ethiopia and Spain and in 1940 witnessed the fall of France and the Battle of Britain. He was appointed chief of the foreign service of the *Chicago Sun* in 1941 and covered the war in the Pacific, north Africa and Europe.

Knox, Sir Errol Galbraith, Australian newspaper director (b. June 25 1889—d. Melbourne, Oct. 17), became managing editor of the Sydney *Evening News* at the age of 32. He was later managing director and editor in chief of the Argus and Australasian, Ltd. and for many years was treasurer of the Empire Press union.

Kostov, Traicho, Bulgarian politician (b. Sofia, June 17, 1897—d. [executed] Sofia, Dec. 16). After studying law at the University of Sofia he was active in the Bulgarian Workers' (Communist) party. For his part in the Sept. 1923 uprising he was arrested and sentenced in the following year to five years' imprisonment. On release from prison he went to Moscow, where he spent two years. Returning to Bulgaria in 1931, he worked there as a member of the illegal Communist party. From 1941 he engaged in partisan resistance, was arrested on April 29, 1942, and sentenced to life imprisonment. When freed in Sept. 1944, he became a member of the committee of the Fatherland front, a member of the Politburo and secretary of the central committee of the Communist party. He was elected deputy for Sofia in Nov. 1945 and Oct. 1946. He joined the second Kimon Gheorghiev cabinet on March 21, 1946, as deputy prime minister, retaining this position in the first Gheorghi Dimitrov cabinet; in addition, in the second Dimitrov cabinet he became chairman of the cabinet economic and financial committee. On April 4, 1949, it was announced in Sofia that he had been removed from the Politburo of the central committee of the Communist party and relieved of his government duties because he had formed "an insincere and unfriendly attitude to the U.S S.R." On June 12 he was expelled from the party and on July 20 deprived of his parliamentary immunity, although he had already been arrested on June 25. He was indicted for espionage and high treason. At the trial which began in Sofia on Dec. 7 he denied the major charges and most of the depositions which, it was alleged, he had previously made. He was condemned to death on Dec 14 and executed on Dec 16.

Krogh, Schack August Steenberg, Danish physiologist (b Grena, Denmark, Nov. 15, 1874 –d. Copenhagen, Sept. 13), graduated in zoology at Copenhagen in 1899 and took his doctor's degree in 1903. In 1920 he was awarded the Nobel prize for medicine for his discovery of the regulation of the motor mechanism of the capillaries. (*See* also *Encyclopædia Britannica.*)

Lamb, Sir Joseph Quinton, British farmer and politician (b. May 2, 1873—d. Eccleshall, Staffordshire, Nov 20), was Conservative member of Parliament for Stone, Staffordshire, 1922-45, and in 1921 was chairman of National Farmers' union.

Lamont of Knockdow, Sir Norman, 2nd Baronet, British politician (b Dec. 7, 1869 –d. Port of Spain, Trinidad, Sept. 4), was a member of the House of Commons, 1905-10, and an unofficial member of the Legislative Council of Trinidad and Tobago, 1915-23.

Lawrence, Sir Henry Staveley, British-born administrator in India (b Co. Donegal, Oct 20, 1870—d Oxford, June 29), entered the Indian civil service in 1890 and served in Sind and Bombay. He was commissioner of Sind, 1916-20; finance member of Council, 1921-26, and acting governor of Bombay, 1926.

Leach, William, British politician and manufacturer (b Bradford, Yorkshire, Nov 30, 1870 –d. Nov. 21), was Labour member of parliament for Bradford central, 1922-24, 1929-31, 1935-45, and was under secretary of state for air, 1924

Lee, Sidney, British artist (b Manchester, 1886 –d London, Oct 31), was elected A R A. in 1922, R A in 1930 and was treasurer of the academy, 1932-40. He worked in several media but was almost exclusively a landscape artist Examples of his work were purchased for the Tate gallery by the Chantrey trustees; others are in the municipal collections of Liverpool, Glasgow, Southampton and Hull.

Lerroux, Alejandro, Spanish statesman (b La Rambla, near Cordoba, 1864—d Madrid, June 27), was son of a sergeant in the veterinary corps. Elected to the Cortes in 1901 as deputy for Barcelona, he became known for his eloquent anti-clericalism and republicanism. He spent a few years in Argentina, where he fled in 1907, but after World War I was allowed to return to Spain He played a large part in creating the republic, and in 1931 became its first foreign minister. His progress towards the moderate centre was demonstrated by the composition of the four cabinets which he headed between 1933 and 1935 He fled from Spain on the eve of the civil war and lived for 11 years in Lisbon. (*See* also *Encyclopædia Britannica*).

Leverhulme, William Hulme Lever, 2nd Viscount, of the Western Isles, British industrialist (b Bolton, Lancashire, March 25, 1888—d. Minneapolis, Minnesota, May 26), was the only child of the first Viscount Leverhulme and was educated at Eton college and Trinity college, Cambridge. In order to gain experience in his father's business he began work as a labourer at Port Sunlight. On May 7, 1925, his father died and William Lever succeeded to the titles and became governor of Lever Brothers. In 1925 the firm had 250 associated companies in all parts of the world, but under his governorship its activities increased still further and in 1937 Lever Bros. amalgamated with Unilever Ltd., under the title Lever Brothers and Unilever. (See *Encyclopædia Britannica*). From 1932-36 he was a pro-chancellor of Liverpool university. A great traveller, he was returning from a business visit to Australia when he died in hospital in Minneapolis. His life of his father, *Viscount Leverhulme by his Son*, was published in 1927.

Lindner, Peter Moffat, British artist (b. Birmingham, Feb. 12, 1852—d. St. Ives, Cornwall, Sept. 20), studied art at the Slade school and Heatherleys. He specialized in painting landscapes and marine subjects both in oils and water-colour. He was a regular exhibitor at the Royal Academy—the last time in 1938.

Londonderry, Charles Stewart Henry Vane-Tempest-Stewart, 7th Marquess of (b London, May 13, 1878—d. Newtownards, N. Ireland, Feb. 11), was educated at Eton college and the Royal Military college, Sandhurst, and served in World War I. He was Conservative member of parliament for Maidstone from 1906 until he entered the House of Lords on the death of his father in 1915. In 1917-18 he represented Ulster in the Irish Convention. In 1920 he became under-secretary for air but resigned his office to return to Northern Ireland as minister of education and leader of the Senate in the newly formed government. From 1928 to 1929 he was first commissioner of works and in 1931 he became minister for air. He was an active minister and the development of the Royal Air Force owed much to him In June 1935 he was appointed lord privy seal and leader of the House of Lords, but was dropped from the government when it was reformed after the general election in Nov. 1935. His book *Ourselves and Germany*, published in 1938, was the result of two visits to that country in 1936 and various conversations he had had there. In July 1942 he became regional commandant of the Air Training corps in Northern Ireland.

Louis II (Louis Goyon de Matignon-Grimaldi), prince of Monaco (b. Baden-Baden, Germany, July 12, 1870—d. Monaco, May 9), served during World War I in the First Foreign regiment of the French army and rose to the rank of general of brigade. He succeeded his father, Albert I, on June 26, 1922, as ruler of Monaco. He was sometimes referred to as an absentee ruler by his subjects, because he preferred to live in France, and at least one riotous outburst of discontent among the people was attributed to this fact. There was also discontent between the years 1928-30 over the administration of the Casino—Monaco's chief source of income. As a result the prince in 1930 suspended the constitution granted to the Monacans by Albert I, his father. Five days before his death he turned over his duties to his grandson, Prince Rainier, who succeeded him

Lovelock, John Edward (Jack), British athlete (b New Zealand, 1910—d. New York, Dec. 28), was a Rhodes scholar at Oxford university and later became a medical student He settled in New York in 1947 to practice at an orthopædic hospital. During World War II he served in the R A.M.C. In 1931 he ran a mile in 4 min. 24 sec. and two years later for Oxford and Cambridge against Princeton and Cornell his time was 4 min 7 6 sec , then a world record. In 1936 in Berlin he won the Olympic 1,500 m in 3 min. 47·8 sec.—then a world record and after 13 years still an Olympic record. On Dec. 28, during an attack of giddiness, he fell before an electric train.

Lucan, George Charles Bingham, 5th Earl of, British peer and a representative peer of Ireland from 1914 (b. Dec. 13, 1860—d. Eastbourne, Sussex, April 20), sat in the House of Commons for Chertsey, 1904-6, and served as a Conservative whip in the House of Lords.

Lykke, Ivar, Norwegian statesman (b 1872—d Dec. 4), was first elected to the Storting in 1915. He was prime minister and minister of foreign affairs from March 1926 until Feb 1928.

Lynd, Robert, British writer (b. Belfast, April 20, 1879—d London, Oct 6), graduated at Queen's college (now university), Belfast, in 1899 and became a literary journalist. His earliest book *Irish and English Portraits and Impressions* (1908) was the first of numerous collections of articles and reviews He went to England in 1901 and worked as a dramatic critic, book reviewer and essayist. In 1908 he joined the *Daily News* and two years later became its literary editor and that of its successor, the *News Chronicle*, until his death. He contributed essays to the *New Statesman* for many years, over the signature "Y.Y." In 1946 Lynd received an honorary doctorate of letters from his old university In his earlier work were anecdotal volumes on Ireland, afterwards succeeded by works of literary criticism such as *The Art of Letters* (1921) and *Dr. Johnson and Company* (1928) and volumes of graceful, perceptive essays, notable among which were *The Pleasures of Ignorance* (1921), *Life's Little Oddities* (1941) and, his last, *Things One Hears* (1945).

MacDougall, Sir Raibeart MacIntyre, British civil servant in Burma (b. April 30, 1892—d. Worthing, Sussex, Nov. 2), entered the Indian civil service in 1915 and served in Burma. From 1941 to 1947 he was counsellor to the governor of Burma.

Mackenzie, Ian Alistair, Canadian lawyer and politician (b. Assynt, Scotland, July 27, 1890—d. Banff, Alberta, Sept. 2), was a member of the British Columbia legislative assembly, 1920-30, a member of the Federal House of Commons, 1930-48, and a senator from 1948. He was minister of immigration, 1930-35, minister of national defence, 1935-39, minister of pensions and national health, 1939-44, and minister of veterans' affairs, 1944-48

McMahon, Sir (Arthur) Henry, British diplomat (b. Nov. 28, 1862—d. London, Dec. 29), joined the Indian political department in 1890. He was foreign secretary to the government of India, 1911-14, and was first high commissioner in Egypt, 1914-16 From 1920 to 1925 he was chairman of the management committee and a member of the board of the British Empire exhibition at Wembley, and from 1928 to 1947 was president of the Y.M.C.A national council.

McMurray, Thomas Porter, British surgeon (b Belfast, Dec 5, 1887—d Nov. 16), was for many years until 1948 professor of orthopædic surgery at Liverpool university. He had been president of the British Orthopædic association and when he died was president-elect of the British Medical association.

McMurtrie, Francis Edwin, British naval journalist (b. London, April 8, 1884—d. Hoddesdon, Hertfordshire, Feb 22), became associated with *Jane's Fighting Ships* in 1904, and from 1923 was its editor. Was naval correspondent to *Daily News* and *News Chronicle* (1928-40), *Daily Telegraph* (1940-42), and later to *Sunday Express*.

Maeterlinck, Count Maurice Polydore Marie Bernard, Belgian writer (b. Ghent, Belgium, Aug. 29, 1862—d Nice, France, May 6), was

educated at the Sainte-Barbe Jesuit college and at Ghent university where he met Emile Verhaeren Though his inclinations were literary he studied law and was called to the bar in 1886 But he soon found that he was not a success as a barrister and he gave up the law for literature From 1889 until 1901, when *La Vie des abeilles* appeared, he wrote a book of poems and several plays of which *Pelleas et Méhsande* was the most successful These early works were full of mysticism and fantasy but *La Sagesse et la destinee* (1898) had a more perceptible philosophy He left Belgium in 1896 for Paris and then moved to an old, disused Norman abbey near Rouen where he lived for 10 years His greatest success *The Blue Bird* (published in English 1909) was first performed at the Moscow Art Theatre in 1908 In 1911 Maeterlinck was awarded the Nobel Prize for Literature At this time he was also offered membership of the Academie Française During World War I he lectured in support of the Allied cause in Italy and Spain After the war he married Renée Dahon and settled in Nice He travelled widely and worked hard From 1939-47 he was in the United States but he returned to France two years before his death (*See* also *Encyclopædia Britannica*)

Maitland, Sir Adam, British politician (b Bury, Lancashire, May 25, 1885–d Henley-on-Thames, Oxfordshire, Oct 5), was M P for Faversham 1928-45 He was a director of the Royal Exchange Assurance and chairman of the *Pall Mall Gazette and Globe*

Malvy, Louis-Jean, French politician (b Figeac, France, Dec 1 1875 —d. Paris, June 9), entered the Chamber of Deputies in 1906 as a Radical and, in June 1914, became minister of the interior He acquired notoriety during World War I when Georges Clemenceau on July 22, 1917, charged him with laxity in dealing with defeatists and revolutionaries Following his resignation on Aug 31, 1917, he was accused of treason and on Aug 6, 1918, was found guilty of culpable negligence Sentenced to five years' banishment, he passed the time in Spain In 1924 he was re-elected a deputy and two years later he became again, for a few weeks, minister of the interior in an Aristide Briand cabinet (*See* also *Encyclopædia Britannica*)

Marchant, Sir Stanley Robert, British professor of music (b London, May 15, 1883 d London, Feb 28), was educated at the Royal Academy of Music He was organist at Kemsing parish church, Kent, 1899-1903, Christ church, Newgate street, 1903-1913, St Peter's, Eaton square, 1913-1921, and St Paul's cathedral, first as sub-organist and from 1927 as organist In 1913 he became a professor at the Royal Academy of Music and from 1936 until his death was principal of the academy In 1937 he was appointed King Edward professor of music at the University of London—a position from which he retired in 1948 In addition to these posts he was a member of many bodies concerned with music and the arts He was president of the Royal College of Organists, 1930-32

Marriot, George Moore, British actor (b West Drayton, Middlesex, 1885—d Bognor Regis, Sussex, Dec 11), appeared in more than 300 films and was best known by his comic character studies of a very old man in films with Will Hay and Graham Moffatt, which included *Windbag the Sailor*, *Oh, Mr Porter!*, *Ask a Policeman* and *Old Bones of the River* He took an energetic part in local affairs and in 1943 was elected to the Daventry Rural District council

Marshall, Francis Hugh Adam, British agricultural physiologist and fellow of the Royal Society (b High Wycombe, July 11, 1878— d Cambridge, Feb. 5), was lecturer on the physiology of reproduction, Edinburgh (1905-8), lecturer on agricultural physiology (1908-19) and reader (1919-43) at Cambridge, and vice master of Christ's college, Cambridge (1939-42) His most famous work was *The Physiology of Reproduction* (1910, 3rd ed 1948)

Martin, John, South African mining and newspaper director (b Stirling, Scotland, April 19, 1884—d. Johannesburg, March 28), was a director of the Bank of England, 1936-46, and chairman of the Argus newspaper group of South Africa

Matsudaira, Tsuneo, Japanese diplomat (b Tokyo, April 17, 1877 — d Tokyo, Nov 14), was ambassador to the United States 1925-28, and ambassador to Great Britain, 1929-36 From 1936 to 1945 he was minister of the Imperial household and after the 1947 elections was elected president of the House of Councillors

Melchett, Henry Ludwig Mond, 2nd Baron, of Landford, British business-man and politician (b May 10, 1898—d Miami, Florida, Jan 22), was M P for Ely, 1923-1924, and for E Toxteth, Liverpool, 1929-30, deputy chairman, Imperial Chemical Industries, 1940-47, and a director of Barclays Bank.

Mitchell, Margaret (Mrs John R Marsh), U S author (b Atlanta, Georgia, 1900?—d Atlanta, Aug 16), was educated at Smith college, Northampton, Massachusetts, and from 1922 to 1926 worked on the *Atlanta Journal* Her novel about the American Civil War, *Gone With the Wind*, which she began in 1930, was published in 1936 and immediately became one of the most popular books of all time By 1949 more than 8 million copies had been sold in 40 countries and 30 languages. In 1937 she was awarded a Pulitzer prize for the novel

Molony, Sir Thomas Francis, 1st Baronet, Irish lawyer (b Dublin, Jan 31, 1865—d London, Sept 3), was called to the Irish bar in 1887 and took silk in 1899 He was solicitor general for Ireland, 1912-13, and for one month in 1913 was attorney general He was a judge of the King's bench, 1913-15, a lord justice of appeal, 1915-18, and lord chief justice of Ireland, 1918-24.

Moncrieff, Lord, Alexander Moncrieff, Scottish attorney (b. Aug 14, 1870—d Edinburgh, Aug 5), was called to the bar in 1894, and became a K C. Scotland, 1912 He was a senator of the College of Justice in Scotland, 1926-47, and was Lord Justice Clerk of Scotland, Feb.-Oct 1947

Morgan, Frank (Francis Philip Wuppermann), United States actor (b. New York, June 1, 1890—d Beverly Hills, California, Sept 18), began acting in 1914. As the Duke of Florence in *The Firebrand*, in 1924, he became firmly established, and the title role of *Topaze* (1930), brought him to the attention of Hollywood He appeared in scores of films, mostly in comedy roles

Munthe, Axel Martin Fredrik, Swedish physician and author (b Oskarshamn, Sweden, Oct 31, 1857—d Stockholm, Feb 11), was educated at the University of Uppsala; he later worked for some time under Jean Charcot at the Salpêtrière in Paris After quarrelling with Charcot and leaving the Salpêtrière he conducted fashionable medical practices first in Paris and then in Rome, where he lived in some style in Keats's house He built his villa of San Michele on the highest point of the island of Capri and created a bird sanctuary there *The Story of San Michele*, the memoirs of a life full of incident, was written in English and published in 1929. It had an outstanding success and was later translated into almost every literary tongue He spent his last years as a guest of the king of Sweden in the Royal palace in Stockholm

Murphy, Frank, U S lawyer (b Harbor beach, Michigan, April 13, 1890 d Detroit, Michigan, July 19), graduated in law from the University of Michigan in 1914 He served as judge of the Detroit recorder's court 1923-30, mayor of Detroit 1930-33, governor general of the Philippines, 1933-35, and, when the Philippines became a commonwealth for a ten-year trial period on Nov. 15, 1935, first high commissioner In 1936 he was elected governor of Michigan In Jan 1939, President Franklin D Roosevelt nominated him U S attorney general and in 1940 appointed him to the U S supreme court (*See* also *Encyclopædia Britannica*)

Myers, Tom, British politician (b Feb 15, 1872 d Dewsbury, Yorkshire, Dec 21), defeated Sir John Simon in a by-election for the Spen Valley division in 1920, and sat in the House of Commons until 1922. He was mayor of Dewsbury, 1940-41

Naidu, Mrs. Sarojini, Indian nationalist leader, poetess and orator (b Hyderabad, Feb 13, 1879 d Lucknow, India, March 2), was the eldest child of Dr Aghorenath Chattopadhyay, who became principal of the Nizam's college, Hyderabad She matriculated at Madras when only 12 and in 1895 went to England and studied at King's college, London, and Girton college, Cambridge Her first volume of poems *The Golden Threshold* was published in 1905 and shortly afterwards her second volume *The Bird of Time* appeared with an introduction by Edmund Gosse In 1914 she was elected a fellow of the Royal Society of Literature About 1915 she met Mahatma Gandhi in London, and from that time devoted her life to work for the Indian national struggle for independence In 1925 she became the first Indian woman to preside over the Indian National Congress She accompanied Gandhi to the Round Table conference in London in 1931, but on her return to India was imprisoned for her part in the civil disobedience movement She was again imprisoned in 1942 The Asian Relations conference of 1947 was presided over by her, and in the same year after the advent of independence she became governor of the United Provinces, a post she held until her death (*See* also *Encyclopædia Britannica*)

Neveu, Ginette, French violinist (b Paris, Aug 11, 1919 –d [in an air crash] Algarvia, Azores, Oct 28), made her first public appearance with the Colonne orchestra under Gabriel Pierne at the Sorbonne at the age of seven She studied at the Paris Conservatoire and at 15 won the Wieniawski international violin competition in Warsaw Her first appearance in London was in March 1945 After that she often played in Britain, appearing at the Edinburgh festival in Aug 1949 and three weeks before her death with the London symphony orchestra and the Halle orchestra She was flying to America to give a series of concerts when the plane in which she was travelling crashed in the Azores

Newberry, Percy Edward, British-born Egyptologist (b April 23, 1869 d Hascombe, near Godalming, Surrey, Aug 7), was educated at King's college, London, and began the study of Egypt in 1884. In 1890 he became officer in charge of the Archæological Survey of Egypt of the Egypt Exploration fund From 1895 to 1901 he undertook the survey of the necropolis at Thebes, and then served on the staff of the Catalogue General of the Services des Antiquites of the Cairo museum He was Brunner professor of Egyptology in the University of Liverpool, 1906-19, and from 1929 to 1933 professor of ancient Egyptian history and archæology in the University of Egypt, Cairo He was a member of the group under Howard Carter which in 1922 discovered the tomb of Tutankhamen, and five years later explored the Gebel Elba region of the Red sea province of the Sudan

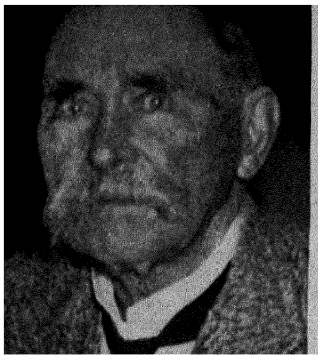
Newton, Sir (Hibbert) Alan Stephen, Australian surgeon (b Victoria, April 30, 1887—d Melbourne, Aug 4), graduated from the University of Melbourne in 1909 At the age of 26 he joined the surgical staff of the Royal Melbourne hospital, and at the time of his death was its consulting surgeon He was a foundation fellow and later president of the Royal Australasian College of Surgeons

Nicholson, Sir Charles Archibald, 2nd baronet, British church architect (b April 27, 1867—d Headington, Oxfordshire, March 4), was consulting architect for Wells, Lichfield, Llandaff, Portsmouth, Sheffield and Belfast cathedrals Besides planning works of reconstruction, he also designed many churches and secular buildings

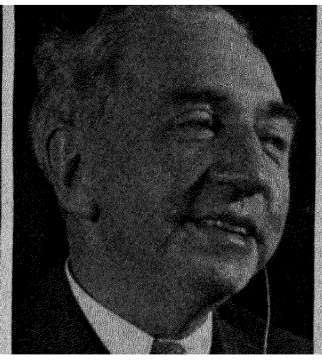
Nicholson, Sir William Newzam Prior, British painter (b. Newark-on-Trent, 1872—d Blewbury, Berkshire, May 16) Educated at the Magnus school, Newark-on-Trent, he studied in London and Paris. He attracted considerable attention when, together with his brother-in-law James Pryde, he produced a series of posters under the pseudonym of the Beggarstaff Brothers. Although he also designed woodcuts and stained glass, he is probably best known for his portraits in oils, which include those of W. E. Henley and J. C. Smuts. He was knighted in 1936, and an exhibition of his work was held in the National gallery, London, in 1942. Examples of his work are to be found in the Tate gallery, London, of which he was a trustee 1934-39, and also in the Fitzwilliam museum, Cambridge, the Luxembourg palace, Paris, and several British municipal galleries

Ogilvie, Sir Frederick Wolff, British scholar and public servant (b.

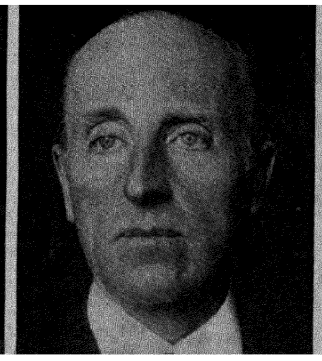
Osmania University Library,
HYDERABAD (DECCAN).



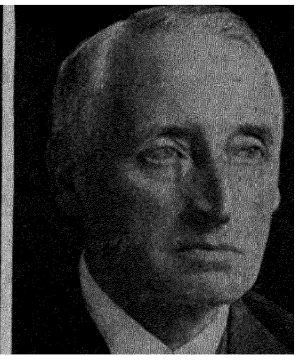
Douglas Hyde.



Viscount Leverhulme.



Marquess of Londonderry.



Lord Rushcliffe.

Feb. 7, 1893—d. London, June 10), was educated at Clifton college and Balliol college, Oxford. He served in the Bedfordshire regiment in World War I when he was seriously injured, losing his left arm. He returned to Oxford in 1919 and in 1920 became lecturer in economics at Trinity college; in 1926 he was appointed professor of political economy at the University of Edinburgh. He was president and vice-chancellor of Queen's university, Belfast, from 1934 until 1938, when he succeeded Sir John (later Lord) Reith as director general of the British Broadcasting corporation. He took over at a difficult time and was responsible for re-shaping the B.B.C. into a valuable part of Britain's war effort. He resigned in 1942 and for a time served on the staff of the British Council. From 1944 until his death he was principal of Jesus college, Oxford.

Ollard, Sidney Leslie, British ecclesiastical historian (b. 1875—d. Datchet, Buckinghamshire, Feb. 28), was ordained in 1899. He was later rector of Dunsfold, 1914-15, rector of Bainton, 1915-36, and prebendary of York Minster, 1935-36. He edited the *Dictionary of English Church History* (2nd ed. 1919) and *Wakeman's History of the Church of England* (11th ed. 1926) and his writings included *The Oxford Movement* (1909) and *The Anglo-Catholic Revival* (1925).

Page, Sir Archibald, British electrical engineer (b. Alloa, Scotland, 1875—d. Sanderstead, Surrey, March, 7), was general manager, Clyde Valley Electric Power company, 1917-20, and electricity commissioner, 1920-25, and chairman, Central Electricity board, 1935-44, He played a leading part in the installation of the grid system throughout Great Britain.

Pares, Sir Bernard, student of Russian history and the Russian language (b. March 1, 1867—d. New York, April 17), was educated at Harrow and Trinity college, Cambridge. He had a knowledge, unrivalled in his own country, of pre-revolutionary Russia which he visited for the first time in 1898. On his second visit, in 1906, Pares met many of the important figures of the second Duma which was at that time meeting in St. Petersburg and his book *Russia and Reform* (1907) was the fruit of his experiences. In 1906 he had been appointed reader in Russian history and from 1908 to 1917 he was professor of Russian history, language and literature in the university of Liverpool. During World War I he was attached to the Russian army as official observer and in 1917 he joined the staff of the British ambassador in Petrograd. In 1919 he was appointed to a chair of Russian at London university and three years later he became, in addition, the first director of the School of Slavonic and East European studies. In 1926 his distinguished verse translation of Krylov's fables appeared. During World War II he lectured in the U.S.A. for the British Ministry of Information and his book *Russia* in the Penguin series enjoyed wide sales in both Great Britain and the United States. Several visits to Soviet Russia had made him critical of the régime, which he saw in his *My Russian Memoirs* from the standpoint of the pre-revolutionary Liberals, but in 1936 he visited Russia once more and recorded in *Moscow Admits a Critic* opinions which were not unfavourable to it.

Peel, Albert, Congregational minister and writer (b. Gomersal, near Leeds, March 20, 1887—d. Glasgow, Nov. 3), was editor of the *Congregational Quarterly* and of the *Transactions of the Congregational Historical Society*, 1922-45. He was the author of many books, and in 1940-41 was chairman of the Congregational Union of England and Wales.

Pender, John Cuthbert Denison Denison-Pender, 1st Baron, of Porthcurnow, Cornwall, British business-man and politician (b. May 11, 1882—d. London Dec. 4), was M.P. for Newmarket, 1913-18, and for Balham and Tooting, 1918-22. He was joint president, Marconi International Marine Communication company, governor and managing director, Cable and Wireless (Holding), Ltd., and a director of Cable and Wireless. He was created a baron in 1937.

Pickard, Sir Robert Howson, British chemist (b. Birmingham, 1874—d. Headley, Surrey, Oct. 18), was principal, Blackburn Technical college, 1907-19; principal, Battersea polytechnic, 1920-27, and director of the British Cotton Industry Research association, 1927-43. He was vice-chancellor of London university, 1937-39.

Pope-Hennessy, Dame Una Constance, British author (b. 1876—d. London, Aug. 16), who in her later years wrote many literary and historical biographies. Her first book was *Early Chinese Jades* (1923) and six years later she published *Three English Women in America*. Her biographies included works on Sir Walter Scott (1932), Edgar Allan Poe (1934), Agnes Strickland (1940), Charles Dickens (1945) and Charles Kingsley (1948). During World War I she was a member of the central prisoners of war committee of the British Red Cross, and in 1920 was created a Dame of the British Empire.

Portal, Wyndham Raymond Portal, 1st Viscount, of Laverstoke, British business-man and politician (b. April 9, 1885—d. Whitchurch, Hampshire, May 6), was educated at Eton college and Christ Church, Oxford, and in 1905 joined the Life Guards. He was placed on the reserve in 1911, but returned to serve in World War I and in 1918 was awarded the D.S.O. Appointed a justice of the peace in 1912 and a deputy lieutenant of the county of Southampton in 1924, he became lord lieutenant in 1948 in succession to Lord Mottistone. In 1934 he was one of the four commissioners appointed by the government to report on the distressed areas (later renamed " development areas ") and his part of the work was mainly concerned with south Wales. At the outbreak of World War II he was appointed regional commissioner for Wales. In Dec. 1939 he resigned and early in 1940 became chairman of the Coal Production council and additional parliamentary secretary to the Ministry of Supply. In 1942-44 when minister of works and planning, he introduced the " Portal " prefabricated house. He then returned to his business interests and became chairman of the Great Western railway until it was taken over by the British Transport commission on Jan. 1, 1948. He was a keen sportsman, being president of the British Olympic association from 1936; the 14th Olympic Games 1948, were held under his presidency.

Purves-Stewart, Sir James, British neurologist (b. Nov. 20, 1869—d. London, June 14), studied at Edinburgh university and was later consulting physician to the Westminster hospital, to the West End Hospital for Nervous Diseases, and physician to the Royal National Orthopædic hospital. Author of many textbooks including *Diagnosis of Nervous Diseases* (10th ed. 1948), *Nerve Injuries and their Treatment* (2nd ed. 1919), and an autobiography *Sands of Time* (1939).

Queenborough, Almeric Hugh Paget, 1st Baron, of Queenborough, Kent, British politician (b. March 14, 1861—d. Camfield place, near Hatfield, Hertfordshire, Sept. 22), was a Unionist M.P. 1910-17.

Radbruch, Gustav Lambert, German politician and lawyer (b. Lübeck, Nov. 21, 1878—d. Heidelberg, Dec. 29?), was minister of justice, 1921-22 and 1923, and professor of criminal law at Heidelberg, 1926-33 and 1945-48.

Rajk (Reich), László, Hungarian politician (b. Székely-Udvarhely [Odorhei], Transylvania, 1909—d. Budapest, Oct. 15). As a student at Budapest university he joined the illegal Communist party in 1930 and was arrested the following year. In 1936 he fought in the Spanish civil war and early in 1939 was interned in France. In 1941 the Germans allowed him to return to Hungary, where he was arrested and sentenced to a short term of imprisonment. In Oct. 1944 he was again arrested but, freed after World War II, became influential in the re-organized Hungarian Workers' (Communist) party. He was minister of the interior from Feb. 1946 until he became minister of foreign affairs in Dec. 1948. On Feb. 1, 1949, he was appointed secretary general of the re-organized People's Independence front. He was arrested on May 16, after the elections, and on Sept. 10 his indictment was published in which he was accused of plotting to murder Mátyás Rákosi and four other Communist leaders, and of spying for Marshal Tito and the U.S. military intelligence. It was also alleged that from 1931 he had been a Hungarian police agent. At his trial, which opened on Sept. 16, Rajk confessed to all the crimes of which he was accused, and he was hanged on Oct. 15.

Rankeillour, James Fitzalan Hope, 1st Baron, of Buxted, Sussex, British parliamentarian (b. Dec. 11, 1870—d. London, Feb. 14), was elected M.P. in 1900 for Brightside division, Sheffield, and from 1908 to 1929 sat for the central division. He was chairman of committees and deputy speaker, 1921-Feb. 1924, and Dec. 1924-29.

Raza, Ali, Sir Syed, Indian statesman (b. Kundarki, Moradabad, April 29, 1882—d. Karachi, Pakistan, Aug. 15), was a member of the United Provinces legislative council, 1912-20, and a member of the Council of State, 1921-26. He was agent general for the government of India in South Africa, 1935-38.

Read, Sir Herbert James, British colonial administrator (b. March 17, 1863—d. Oct. 17), entered the Colonial Office in 1889 and for more than 40 years worked in the interest of the colonies. He was one of the first to see the bearing of the study of tropical medicine on colonial administration. He was governor of Mauritius, 1924-30.

Reynolds, John Henry, British astronomer (b. Edgbaston, Birmingham,

June 27, 1874—d. Birmingham, Nov. 22), was elected a fellow of the Royal Astronomical society, 1899, and was president of the society, 1935-36, and treasurer, 1929-35 and 1937-45.

Rintelen, Franz von, German naval officer and spy (b. Germany, 1884—d. London, May 30), was on the staff of the German admiralty when World War I broke out. He was sent to the United States to sabotage the dispatch of munitions to the Allies and was so successful that the British authorities determined to remove him. In 1915 a false message of recall caused Captain von Rintelen to cross the Atlantic and he was arrested on his way back to Germany when the Dutch ship in which he was travelling was in British waters. He was interned until the entry of the U.S. into the war when he was sent to America and sentenced to imprisonment for espionage activities. He was pardoned by President Woodrow Wilson in 1920 and later settled in England, publishing two books of reminiscences, *The Dark Invader* (1933) and *The Return of the Dark Invader* (1935).

Ripley, Robert Leroy, U.S. cartoonist (b. Santa Rosa, California, Dec. 25, 1893—d. New York, May 27), sold his first drawing to the old *Life* magazine at the age of 14. He began newspaper work on the *San Francisco Bulletin* in 1909, transferred to the *San Francisco Chronicle* and in 1913 went to work for the *New York Evening Globe*. In 1918 he produced his first "Believe it or not" cartoon and for 31 years continued to collect oddities which were published under the title "Believe it or not." He left the *Globe* for the *New York Evening Post* and continued to produce cartoons that were eventually syndicated to about 30 papers. His work first won broad national recognition with the publication of the first "Believe it or not" book in 1929. Subsequently his drawings were syndicated to more than 300 newspapers throughout the world. He also developed motion-picture short subjects, and for many years conducted a radio programme, all based on the "Believe it or not" theme.

Robinson, William Albert, British politician (b. 1877—d. Liverpool, Dec. 31), was Labour M.P. for St Helens, Lancashire, 1935-45.

Rothschild, Baron Edouard-Alphonse-James de, French banker (b. Feb. 24, 1868—d. June 30), was the head of the French branch of the Rothschild family. He was a regent of the Bank of France, president of the Rothschild Brothers bank, and president of the Compagnie du Chemin de fer du Nord. He owned the largest racing stables in France and was one of the most prominent figures of the French turf. In 1926 he played an important part with Raymond Poincaré in stabilizing the franc. During World War II he was deprived of his French nationality by the anti-semitic laws of the Vichy government and in 1940 went to live in the United States until the liberation of France, when he returned to his country.

Runciman of Doxford, Walter Runciman, 1st Viscount, British politician (b. South Shields, Nov. 19, 1870—d. Doxford, Northumberland, Nov. 14), was educated at Trinity college, Cambridge. In 1898 he unsuccessfully contested the Gravesend division of Kent as a Liberal, and in 1899 was elected for Oldham (defeating Winston Churchill). In the following year he was defeated by Churchill in the general election, he again sat in the House of Commons for Dewsbury, 1902-18, for Swansea, west, 1924-29, and for St. Ives, Cornwall, 1929-37. After 1931 he sat as a Liberal National. He held many posts in Liberal governments, his first being parliamentary secretary to the Local Government board, 1905-7. He was financial secretary to the Treasury, 1907-8, president of the Board of Education, 1908-11, and of the Board of Agriculture, 1911-14. He was president of the Board of Trade, 1914-16, and again in the National government, 1931-37. In 1937 he was created a viscount and in the following year went to Czechoslovakia as head of a mission which attempted to persuade the Czechs to accept the claims of the Sudeten Germans. He was lord president of the council, 1938-39.

Rushcliffe, Henry Bucknall Betterton, 1st Baron, of Blackfordby, Leicestershire, British politician (b. Aug. 15, 1872—d. Seaford, Sussex, Nov. 18), was educated at Rugby and at Christ Church, Oxford, and in 1896 was called to the bar. In 1918 he was elected Conservative member of parliament for Rushcliffe and continued to represent the division from which he later took his title until he was created a peer in 1935. He was parliamentary secretary to the Ministry of Labour, 1923-24, and Nov. 1924-29, and minister of labour from 1931 until 1934 when he became the first chairman of the Assistance board, which he himself had set up as minister of labour. He retired from the Assistance board in 1941, and later served as chairman of the National Service Hostels corporation, 1941-46; of the Land Title inquiry, of the nurses' salaries committee; and in 1945 of the committee on legal aid and legal advice.

Russell, Sir Walter Westley, British landscape and figure painter (b. Epping, Essex, May 31, 1867—d. London, April 16), studied at the Westminster School of Art under Professor Frederick Brown. He was elected to the New English Art club in 1895, an A.R.A. in 1920, and an R.A. in 1926.

Rust, William, British Communist leader and journalist (b. 1904—d. London, Feb. 3), was formerly secretary of the Young Communist league and editor of the *Young Worker*, 1924. In 1930 he was appointed editor of the *Daily Worker*. He was its correspondent in Spain, 1937-38, and continued as editor until his death, except when the paper was suspended from Jan. 21, 1941, to Sept. 7, 1942.

Rutter, Sir Frederick William Pascoe, British insurance director (b. June 28, 1859—d. Kingston Hill, Surrey, June 24), joined the London and Lancashire Fire Insurance company in 1873, becoming general manager in 1899 and governor in 1921. He was president of the Insurance Institute of Great Britain, 1910-11.

Ryan, Sir Andrew, British diplomat (b. Nov. 5, 1876—d. East Bergholt, Suffolk, Dec. 31), was consul general at Rabat, 1924-30, minister to Saudi Arabia, 1930-36, and minister to Albania, 1936-39.

Sapru, Sir Tej Bahadur, Indian lawyer and politician (b. Dec. 8, 1875—d. Allahabad, United Provinces, Jan. 20), was educated at Agra college, Allahabad, and in 1896 became an advocate of the high court at Allahabad. (For his early life see *Encyclopædia Britannica.*) He attended the Round Table conferences in London in 1930, 1931 and 1932. In 1933 he returned to London to confer with the parliamentary committee on Indian reforms and in the following year was made a privy councillor. During World War II, Sapru, unlike many Indian politicians, favoured co-operation with Britain, provided that the composition of the viceroy's executive council was changed.

Scott, John Russell, British newspaper director (b. July 12, 1879—d. Manchester, April 5), was the second son of C. P. Scott, editor of the *Manchester Guardian* (1872-1929), and succeeded him as chairman and managing director of The Manchester Guardian and Evening News, Ltd., in 1932. In 1947 he became governing director.

Shephard, Firth, British impresario (b. London, April 27, 1891—d. London, Jan. 3), started in the insurance business but became an entertainer and subsequently a London theatrical manager. He produced at most theatres in the west end of London and his later successes included *Arsenic and Old Lace* and *Life With Father*.

Short, Walter Campbell, United States general (b. Fillmore, Illinois, March 30, 1880—d. Dallas, Texas, Sept. 3), was commissioned a second lieutenant in March 1902, and served in Mexico in 1916 and in France in 1918. He was commander of the Hawaiian department at the time of the Japanese attack on Pearl Harbour, Dec. 7, 1941. He retired from the army on Feb. 28, 1942. In Jan. 1942 a committee headed by Justice O. W. Roberts reported that the success of the Pearl Harbour attack was largely due to the failure of General Short and Admiral H. E. Kimmel to take adequate action. Later a congressional inquiry found that they were not guilty of "dereliction of duty" but of "errors of judgment."

Skirmunt, Konstanty, Polish politician and diplomat (b. Mołodów, near Pińsk, Aug. 30, 1866—d. Sobięcin, near Wałbrzych, Silesia, July 24). Educated at the University of St. Petersburg (Leningrad), he was an active member of the Polish Realist (Conservative) party, and an elected member of the Russian Council of State (Upper Chamber) 1909-17. On the restoration of Poland he was appointed first Polish minister to Italy and was minister of foreign affairs 1921-22. He was Polish minister in London from 1922 and ambassador 1929-34. After his retirement from public service he lived in the family manor where he was born. (His death was erroneously announced in the press in Oct. 1939).

Smith, Herbert Maynard, British theologian and historian (b. 1869—d. Shrewsbury, Jan. 6), was ordained in 1893 and from 1921 to 1946 was canon residentiary of Gloucester. His works included *John Evelyn in Naples* (1910), *Early Life and Education of John Evelyn* (1920), *Pre-Reformation England* (1938) and *Henry VIII and the Reformation* (1948). He was editor, *Church Quarterly Review*, 1926-31.

Smithers, Alfred, (Alfred Drayton), British actor (b. Brighton, Sussex, Nov. 1, 1881—d. London, April 26), played his first professional part in *The Beloved Vagabond* in Cardiff in 1908. From 1936 he partnered Robertson Hare in many farces.

Smythe, Francis Sydney, British mountaineer (b. Maidstone, Kent, July 6, 1900—d. Colgate, Sussex, June 27), was educated at Berkhampsted school and in 1919 entered Faraday House Engineering college. He made his first visit to the Himalayas in 1930 as a member of the International Kanchenjanga expedition led by Dr. G. O. Dyhrenfurth, and in 1931 he led a small party of British climbers which succeeded in reaching the top of Kamet (25,477 ft.). Smythe made three attempts on Everest in 1933, 1936 and 1938, and in the first of these he was one of three men who reached 28,000 ft.—the highest point from which any climber has returned safely. During World War II he helped to train troops in mountain warfare. New fields were explored when in 1946 and 1947 he took part in expeditions in the Canadian Rockies. His 1947 expedition in the Lloyd George range was undertaken by the use of aircraft to reach the heart of the range. He became widely known through his many books and photographs on mountaineering subjects. Most of his expeditions were followed by full length records by which he communicated his enjoyment of mountains to a wide public.

Somerville, Edith Anna Œnone, Irish artist and authoress (b. Corfu, 1858?—d. Castle Townshend, County Cork, Oct. 8), studied art in Paris and at the Royal Westminster School of Art in London, and soon became a successful painter in oils and also an illustrator to many of her own books, but her cousin, Violet Martin, of Ross, encouraged her to develop her literary gifts. Their most famous book, *Some Experiences of an Irish R.M.* (1899), was on a plane of comedy not attained by an Irish writer before or since. Other joint works included *The Real Charlotte* (1894), *Dan Russel, the Fox* (1911) and *In Mr. Knox's Country* (1915). The partnership ended in 1915 with the death of Violet Martin, who wrote under the name of Martin Ross. Miss Somerville continued to write books on Irish life and foxhunting which were read by a very large public. She was one of the original members of the Irish Academy of Letters, receiving its Gregory medal in 1914, and was a master of foxhounds, 1912-19.

Somerville, Sir James Fownes, British admiral of the fleet (b. Somerset, July 17, 1882—d. Wells, Somerset, March 19), became a commander during World War I, receiving the Distinguished Service Order for his work as fleet wireless officer at the Dardanelles. By 1937 he was a vice admiral and in 1938 he became commander in chief, East Indies; in April, 1939, he was invalided home with a lung infection. After special treatment he returned to the Admiralty for duties in connection with the development of radar in which he was a specialist. During the evacuation from Dunkirk he helped Vice Admiral Bertram Ramsay. Shortly afterwards a special task force, Force H, was formed, with Somerville in command. This force led the action against the French fleet at Oran. In 1942 Somerville was in charge of the British fleet in the Far East, and from Oct. 1944 to the end of 1945, he was head of the British Admiralty delegation in Washington. He was promoted to admiral of the fleet in May 1945.

Sophoulis, Themistocles, Greek statesman (b. Vathy, island of Samos,

Nov. 25, 1861—d. Kifissia, June 24), an archæologist and man of letters by profession, was the leader of the movement which ended in August 1912 in the proclamation of the union of Samos with Greece. Governor of Samos from 1912, he was appointed governor-general of Macedonia in 1914, and was elected member for Samos in the Greek Chamber of Deputies in 1915. A staunch supporter of the Liberal leader, Eleutherios Venizelos, Sophoulis followed him at the time of the pro-Allied Salonika revolution of 1916, returning to Athens after King Constantine had been removed from the throne. He was elected president of the Chamber of Deputies in 1917, a post which he held till the defeat of the Liberal party at the elections of Nov 14, 1920 In 1924, after the proclamation of the republic and Venizelos' first withdrawal from politics, Sophoulis was for a few months prime minister. From 1928 to 1931 he was again president of the Chamber. After Venizelos' second withdrawal from politics in 1935, Sophoulis succeeded him as leader of the Liberal party. During the Ioannis Metaxas dictatorship (1936-41) he abstained from politics In 1944 he was arrested by the Germans. After the liberation, he took office as prime minister of a Republican cabinet on Nov. 22, 1945. He resigned after the elections on March 31, 1946, had given the victory to the Populist (conservative) party. On Sept. 7, 1947, he again assumed the premiership in a coalition government composed of Liberals and Populists.

Spoor, Simon Hendrik, Netherlands general (b. Amsterdam, 1902—d. Batavia, May 25), graduated from the Breda Military academy as second lieutenant in 1923. Posted to Indonesia, he returned to Holland in 1929 to study at the staff college. He was attached to the general staff in Indonesia in 1932, and returning to Holland two years later was promoted captain and appointed lecturer at the Breda academy. In 1938 he was back at Batavia and at the beginning of 1942, with the rank of major, was attached to General Douglas MacArthur's staff. After the capitulation of Japan he returned to Indonesia as a colonel and director of the Netherlands forces intelligence service. In Jan 1946 he was promoted major general and appointed commander in chief of the Netherlands forces in Indonesia and head of the war department there, becoming lieutenant general in September. He led the military operations against the Republic of Indonesia which started on Dec 18, 1948. He was promoted general, May 23, 1949, and died from a heart attack two days later.

Stack, Thomas Neville, British aviation pioneer (b April 1, 1896—d. [in a road accident], Karachi, Pakistan, Feb 22), joined the army in 1914 and later transferred to the R F C Between the wars he was a test pilot and instructor and during World War II was commissioned in the Fleet air arm. In May 1948 he was appointed manager of Pakistan airways

Stamford, Thomas William, British politician (b Cambridge, Dec 20, 1882—d. Bradford, May 29, 1949), was a bookbinder, and for many years a member of the Bradford City council. He was Labour M P. for West Leeds, 1923-31, and from 1945

Steptoe, Harry Nathaniel, British diplomat (b. Portsmouth, March 11, 1892—d San Salvador, El Salvador, March 14), served in China, 1919-36, and later at Lourenço Marques, Basra, Tehran and Léopoldville He was appointed minister at San Salvador, April, 1948.

Stettinius, Edward Reilly, Jr., United States industrialist and statesman (b Chicago, Oct. 22, 1900—d Greenwich, Connecticut, Oct 31), was educated at Pomfret school in Connecticut and at the University of Virginia He held several posts in General Motors corporation, 1926-34, and then moved to the United States Steel corporation where he became chairman in 1938 President Franklin Roosevelt appointed him to the War Resources board in 1939 and in the following year he became a member of the advisory commission to the Council of National Defence He was lease-lend administrator 1941-43; under secretary of state, 1943-44; and succeeded Cordell Hull as secretary of state in Nov. 1944. He resigned on June 27, 1945 and was appointed head of the U S delegation to the United Nations. He held this post until June 1946. He was rector of the University of Virginia, 1946-49.

Stewart, Duncan George, British colonial governor (b. Wilkleifontein, Transvaal, Oct 22, 1904 —d. [assassinated], Singapore, Dec 10), was educated at Winchester and Oriel college, Oxford. In 1928 he joined the colonial service and served in Nigeria In 1944 he was transferred to the Bahamas as colonial secretary and in 1947 went to Palestine as financial secretary. He was in charge of the Palestine Accounts Clearance office in Cyprus when, in Sept 1949, he was appointed governor of Sarawak in succession to Sir Charles Arden Clarke. He arrived in the colony on Nov 14 On Dec. 3, during his first visit to Sibu, the second largest town in Sarawak, he was stabbed by a young Malay and seriously wounded. He was flown to Singapore and died a week later. He was buried at Bidadari cemetery, Singapore

Stewart, William Downie, New Zealand politician (b July 29, 1878—d. Dunedin, Sept. 29), sat in parliament, 1914-35. He held many ministerial posts including the portfolios of customs, 1920-28, internal affairs, 1921-24, industries and commerce, 1923-26, and finance, 1926-28. 1931-33.

Stiebel, Sir Arthur, British barrister and registrar (b. Feb 27, 1875—d. Ascot, Berkshire, Feb. 15), was called to the bar in 1899. He was registrar in companies (winding up) and in bankruptcy of the high court of justice, 1920-47. He was also president of the Jewish Board of Guardians, 1920-30.

Stockdale, Sir Frank Arthur, British colonial administrator (b. June 24, 1883—d. London, Aug. 3), was educated at Wisbech and at Magdalene college, Cambridge. He entered the colonial service as mycologist in the Imperial department of agriculture for the West Indies in 1905. He was transferred to British Guiana in 1908; in 1912 was appointed director of agriculture in Mauritius, and in 1916 went to Ceylon in a similar capacity. He served as agricultural adviser to the secretary of state, 1930-40, and in the latter year he became comptroller for development and welfare in the West Indies. While in the West Indies he was co-chairman of the Anglo-American Caribbean commission, 1942-45, and the West Indian conference, 1944. He was development planning adviser at the Colonial office from 1945 to 1948, when he became vice-chairman of the Colonial Development corporation.

Stocker, William Nelson, British physicist and university don (b. Horsforth, near Leeds, Jan. 28, 1851—d. Oxford, Aug. 2) in 1877, won an open fellowship at Brasenose college, Oxford—which he held for 72 years. He was a professor of physics in India, 1883-1901, when he returned to Brasenose. He became senior fellow in 1911 and resigned in 1945.

Strathmore and Kinghorne, Patrick Bowes-Lyon, 15th Earl of. (b. Sept. 22, 1884—d. Glamis, May 25). His youngest sister, Elizabeth, married Prince Albert, Duke of York, in 1923, and became Queen in 1936.

Strauss, Richard, German composer and conductor (b. Munich, June 11, 1864—d. Garmisch-Partenkirchen, Sept. 8), was the son of Franz Strauss, a horn player in the opera orchestra. He began to compose at the age of six, studied music at Munich and at 21 became conductor of the Meiningen court orchestra. In 1889 he was conductor in Weimar, six years later in Munich, and in 1898 he became conductor at the Berlin state opera. In 1905 he composed his first great opera, *Salome*, based on Oscar Wilde's libretto. In 1908 with *Electra* began his long partnership with the Austrian poet Hugo von Hoffmannsthal. From this collaboration many operas were born including *Der Rosenkavalier* (1911), the most successful, *Ariadne auf Naxos* (1912) and *Die Frau ohne Schatten* (1919). *Arabella*, composed in 1929 and produced four years later, failed to achieve success. Among symphonic poems, *Don Juan* (1889), *Till Eulenspiegel* (1895) and *Don Quixotte* (1898) are generally the most esteemed. To the nazis Strauss's world-wide reputation made him an acceptable president of their *Reichsmusikkammer*, but his appointment in 1933 brought him no credit and he did not remain in favour. In 1935 he produced at Dresden *Die Schweigsame Frau*, an opera of which the libretto based on Ben Johnson's comedy, *Epicoene or The Silent Woman*, was adapted by Stefan Zweig. Because the latter was a Jew the opera was banned after its second performance and Strauss resigned the presidency of the *Reichsmusikkammer*. His last opera, *Der Friedenstag*, produced at Munich in 1938, was hissed by the nazis. In 1944 Strauss took refuge in Switzerland but returned to Garmisch after the capitulation In Oct. 1947 he visited London and at the Albert Hall directed a performance of some of his works. (*See* also *Encyclopædia Britannica*

Stuart, Sir Louis, British judge in India (b March 12, 1870—d London, Dec 26), entered the Indian civil service in 1891. He was puisne judge, Allahabad high court, 1922-25, and chief judge of Oudh chief court, 1925-30 He was knighted in 1926 and retired in 1930.

Suhard, Emmanual Celestin, Cardinal, French prelate (b. Brains-sur-les-Marches, Mayenne, April 5, 1874—d Paris, May 29), was appointed bishop of Bayeux and Lisieux in 1928. In 1930 he became archbishop of Rheims and in 1940 succeeded Cardinal Jean Verdier as archbishop of Paris He was created a cardinal on Dec. 16, 1935.

Sullivan, Timothy, Irish lawyer (b 1874—d Dublin, March 29), became a barrister in 1895 and a K.C., 1918. He was president of the high court of justice of the Irish Free State, 1924-36, and President of the supreme court and chief justice, 1934-36.

Sutherland, Sir William, British politician (b. Glasgow, March 4, 1880—d. Sheffield, Sept. 19), sat in parliament, 1918-24, was a lord of the treasury 1920-22, and chancellor of the duchy of Lancaster, 1922 He was private secretary to David Lloyd George, 1915-20.

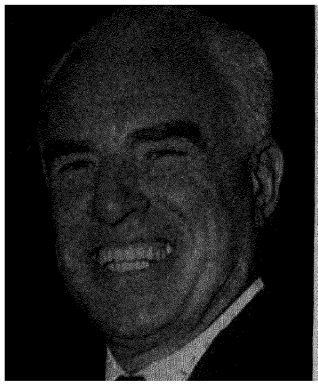
Taylor, William Henry, British journalist (b 1893?—d. St. Peter Port, Guernsey, Dec 8), was editor of the *Sunday Dispatch* (London) and went to Guernsey where he edited the *Star*. The newspaper was suspended by the Germans for three months in 1944. He later became editor of the *Guernsey Evening Press*

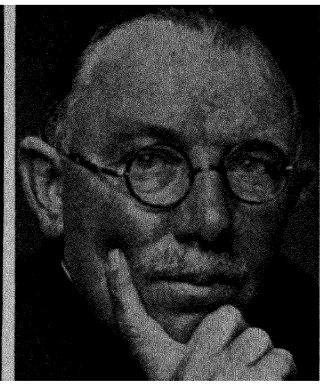
Thomas, James Henry, British politician and trade union leader (b. Newport, Monmouthshire, Oct 3, 1874 –d. London, Jan 21), left school when nine years of age and after starting life as an errand boy became in turn an engine cleaner, a first-class fireman and an engine driver. He was an active trade union organizer at Swindon and later he worked for the Amalgamated Society of Railway Servants in Manchester and in south Wales, becoming its assistant secretary. He was general secretary of the National Union of Railwaymen in 1918-24 and 1925-31. From 1910 when he was elected M.P for Derby he took an active part in politics and when Labour took office in 1924 he became colonial secretary. In 1926 Thomas opposed the general strike but he also disapproved of the government's handling of the situation and particularly of the Trade Disputes and Trade Unions bill which was introduced in the following year. In 1929 he became lord privy seal and minister for employment in the second Labour government. When the Imperial conference met in 1930, Thomas, as secretary of state for the dominions, took an important part. In 1931 he entered the new National government continuing to hold the same office and, for a time, the secretaryship of the colonies as well. He had been repudiated by the Derby Labour party but was returned in the election of that year when he stood as an independent Labour candidate Returned again in 1935 he became colonial secretary. In 1936 he was found by a tribunal of inquiry to be guilty of the disclosure of information about the budget and retired from politics.

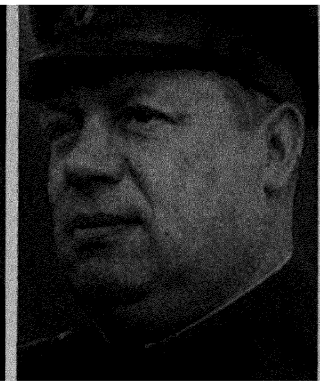
Thomson, Sir William Johnston, British business-man (b. 1881—d. Edinburgh, Sept. 18), was chairman and managing director of Scottish Motor Traction, Ltd., and president of the Scottish Amicable Building society. He was lord provost of Edinburgh, 1932-35.

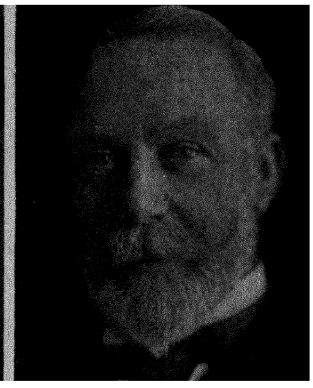
Titterington, Meredith Farrar, British trade union leader and politician (b. Bradford, 1886—d. Bradford, Oct. 28), was lord mayor of Bradford, 1939-40 and M.P. for Bradford south from 1945.

Tolbukhin, Fyodor Ivanovich, Soviet marshal (b. Andronniki, Yaroslavl province, June 16, 1894—d. Oct. 17), was the son of a peasant.


Edward Stettinius.


James Henry Thomas.


Marshal Fyodor Tolbukhin.


Viscount Ullswater.

During World War I he rose from private to captain; he joined the Red army and in 1920 commanded a division. After the civil war he graduated from the M. V. Frunze Military academy, Moscow, and in 1941 was a major general and chief of staff of a military district. During World War II he distinguished himself as a tactician and an expert in tank warfare. In Nov. 1942 he commanded the army which, from the southeast, helped to encircle the German Sixth army at Stalingrad, and on Feb. 1, 1943, he personally accepted Field Marshal Friedrich von Paulus' surrender. In Aug. 1943 he defeated the Germans at Taganrog; later he took Melitopol, contributed to the liberation of the Crimea and on May 9, 1944, recaptured Sevastopol. In Aug. 1944 his army swept through Rumania into Bulgaria, and it was he who signed the Bulgarian armistice on Oct. 28, 1944. Promoted marshal on Sept. 12, 1944, he contributed to the liberation of Yugoslavia; in Dec. 1944 his army group reached Balaton lake in Hungary, and early in 1945 he participated in the battles of Budapest and Vienna. He was awarded the Order of Victory and the Order of Lenin (twice). His last appointment was as commander of the troops of the Transcaucasian military district.

Turina, Joaquin, Spanish pianist, composer and critic (b. Seville, Dec. 9, 1882—d. Madrid, Jan. 14), studied in Paris and returned to Spain in 1914. His works included the lyric comedy *Margot*, a composition for strings *Oración del Toreador* and stage works *La Adultéra Penitente* and *Jardin del Oriente*.

Ullswater, James William Lowther, 1st Viscount, of Campsea Ashe, Suffolk, British parliamentarian (b. April 1, 1855—d. Campsea Ashe, March 27), was educated at Eton, King's college, London, and Trinity college, Cambridge. He was called to the Bar in 1879 and in 1883 entered the House of Commons as Conservative member for Rutland. He was defeated at Penrith, Cumberland, in 1885, but was elected in the following year. His only government office was the under-secretaryship for foreign affairs, 1891-92. In 1895 he was elected chairman of the committee of ways and means and deputy speaker of the House of Commons, and for the next 26 years continued as an officer of the House of Commons,—until 1905 as deputy speaker, and from 1905-21 as speaker. He resigned in 1921 and was created a viscount by King George V. One of the greatest speakers of the House of Commons he did much to uphold the traditions of his high office. In 1925 he published his autobiography *A Speaker's Commentaries*.

Undset, Sigrid, Norwegian author (b. Kalundborg, Denmark, May 20, 1882—d. Lillehammer, Norway, June 10), earned an international reputation by her three novels, *Fru Marta Oulie* (1907), *Jenny* (1911) and *Kristin Lavransdatter* (1920-22), for the last of which—a three-volume work based on mediaeval life in Norway—she was awarded the Nobel prize for literature in 1928. Historical studies made for *Kristin Lavransdatter* led to her conversion to Roman Catholicism in 1925. *Olav Audunsson* (1925-27), *Ida Elizabeth* (1932) and *Saga of Saints* (1934) continued the historical series, and in 1939 her autobiography *Men, Women and Places* appeared. A year later, when Norway was invaded, Fru Undset issued a strong statement urging her countrymen to resist. Eventually she fled with her younger son Hans through Stockholm, Moscow and Vladivostok to the United States; at Stockholm she learned that her elder son Anders had been killed fighting the Germans. Returning to Norway in July 1945 she lived quietly in her logwood cabin at Lillehammer. Her last book *Happy Times in Norway* appeared in 1942 in New York. (*See* also *Encyclopædia Britannica*).

Uthwatt, Augustus Andrewes Uthwatt, Baron (life peer), of Lathbury, Buckinghamshire, British lord of appeal (b. Australia, April 25, 1879—d. Sandwich, Kent, April 24), was educated at Ballarat college, Victoria, and Balliol college, Oxford. He was called to the bar in 1904. During World War I he was the legal adviser to the Ministry of Food. In 1934 he was appointed junior counsel (on the chancery side) to the Treasury and the Board of Trade and to the attorney general in charity matters. On the death of Mr. Justice Crossman in 1941 he was appointed a judge of the chancery division and in 1946 was made a lord of appeal in ordinary and created a life peer. Shortly after his elevation to the bench in 1941 he was appointed chairman of an expert committee on land compensation and betterment.

Vanbrugh, Dame Irene, English actress (b. Exeter, Devon, Dec. 2, 1872—d. London, Nov. 30), made her first stage appearance at the age of 16 as Phoebe in *As You Like It* at Margate. After this she toured with J. L. Toole's company and played in England, Australia and New Zealand. She first appeared on the London West End stage in 1892 and in following years was with Beerbohm Tree, George Alexander and A. Bourchier. Her work showed great versatility but it was in light comedy in which she excelled. She created amongst other parts those of Gwendolen Fairfax in *The Importance of Being Earnest*, Lady Mary Lazenby in *The Admirable Crichton*, Rose Trelawny in *Trelawny of the Wells*. Continuing her career until her death two days before her 77th birthday she had made many tours of Australia, New Zealand and South Africa and during World War II worked with ENSA (Entertainments National Service association). She appeared in films including *Catherine the Great* and *I Live in Grosvenor Square*. Her autobiography *To Tell My Story* was published in 1948. She was created a D.B.E. on Jan, 1, 1941.

Wadsworth, Edward Alexander, British painter (b. Cleckheaton, Yorkshire, Oct. 1889—d. London, June 21), studied at the Slade school and was elected to the New English Art Club in 1921. His best known paintings were careful compositions of marine objects, in tempera. He executed two panels for the interior of R.M.S. " Queen Mary " and one for the De La Warr pavilion, Bexhill, and works of his are in the Tate gallery, London, and many provincial galleries. He was a member of the London group and of Unit One and held numerous exhibitions. He became an A.R.A. in 1943.

Wakatsuki, Reijiro, Baron, Japanese statesman (b. 1866?—d. near Ito, Japan, Nov. 20), was prime minister in 1926 and 1931, having previously been minister of home affairs. He attended the London naval conference, 1929, and was afterwards created a baron.

Walker, Sir Herbert Ashcombe, British railway manager (b. London, May 18, 1868—d. London, Sept. 29), was general manager, Southern railway, 1923-37. Under his direction the Southern railway greatly extended and improved its electric services, and the suburban system became the largest of its kind in the world. He was knighted in 1915 for his work in transporting the British army to France.

Walls, Tom Kirby, British actor and racehorse owner (b. Kingsthorpe, Northamptonshire, Feb. 18, 1883—d. Ewell, Surrey, Nov. 27), was educated at Northampton county school, served in the Metropolitan police, and made his first stage appearance in 1905 in Glasgow. He toured in the United States, Canada, and Australia. In 1922 he embarked on his first managerial venture with Leslie Henson with a farce *Tons of Money* which ran for two years. This was followed by others with Ralph Lynn at the Aldwych theatre. He assumed control of the Fortune theatre in 1927 and produced *On Approval* (1927), *Mischief* (1928), *Aren't We All?* (1929), *The Last Enemy* (1929) and *Cape Forlorn* (1930). In 1929 he acted in his first film and directed and acted in more than 20 pictures. As soon as his theatrical success allowed he acquired a string of racehorses and achieved many successes including the Derby in 1932 with April the Fifth.

Ward, Ida Caroline, British linguistic scholar (b. Bradford, Yorkshire, Oct. 4, 1880—d. Guildford, Oct. 10), contributed to the study of English phonetics and to research in speech defects before she began her work in west African languages, which gave their study a new status. She was for many years adviser in African studies in the School of Oriental and African studies, University of London. In 1944 she became professor of west African languages and in 1948 was created professor emeritus.

Ware, Sir Fabian Arthur Goulstone, British major general (b. Clifton, Bristol, 1869—d. Amberley, Gloucestershire, April 28), started as a schoolmaster in Bradford and later became director of education, Transvaal. He was editor of the *Morning Post*, 1905-11. He served in World War I and in 1917 founded the Imperial War Graves commission, being its vice-chairman until 1948.

Watson, Vernon, (Nosmo King), British comedian (b. Peterborough, 1887?—d. London, Jan. 13), started as a bank clerk, but became a success on the stage as a mimic. He later appeared as a black-faced comedian under the stage name " Nosmo King."

Wensley, Frederick, British detective (b. Taunton, Somerset, 1865—d. London, Dec. 4), joined the Metropolitan police in 1887. In 1924 he was appointed chief constable—a rank specially created for him. He retired from the police in 1929. During his 42 years of service he was responsible for initiating the flying squad; and while he was chief constable the term " Big Four " was first applied to the four senior officers who were assigned the task of re-organizing the police.

Wiltshire, Sir Frank Henry Cafuade, British town clerk (b Suffolk, Nov 27, 1881—d March 19), was town clerk of Birmingham, 1919-46, and clerk of the peace, 1937-46, and from Nov 1947 judge of Alderney, Channel Islands

Wintringham, Thomas Henry, British politician and author (b Grimsby, Lincolnshire, May 15, 1898– d Searby Manor, Lincolnshire, Aug 16), was educated at Gresham's school, Holt, and Balliol college, Oxford. He joined the Communist party in 1922 and worked on the *Workers' Weekly*, *Workers' Life* and the *Daily Worker* He commanded the British battalion of the International Brigade in the Spanish Civil War in 1937, and in the following year was expelled from the Communist party for " maintaining personal relations with elements considered undesirable by the party." His experiences in Spain were put to good use in World War II, when in 1940 he helped to organize the Osterley Park training school for the Home Guard He wrote two books on guerrilla warfare, *New Ways of War* and *Armies of Freedom* His *English Captain* (1939) recounted his Spanish adventure, and *Your M P*, a book first issued anonymously, caused considerable controversy before the general election of 1945

Wise, Stephen Samuel, U S rabbi and zionist leader (b Budapest, Hungary, March 17, 1874 -d New York city, April 19) His family settled in New York in 1875, and he was educated at City college and Columbia university He became rabbi of the Madison avenue synagogue in New York in 1893, and in 1900 moved to Portland In 1906 he returned to New York and in the following year founded the Free synagogue of New York He was president of the American Jewish congress, a member of the executive board of the Jewish Agency for Palestine, co-chairman of the American Zionist Emergency council, president and founder of the Jewish Institute of Religion and from 1936 president of the World Jewish congress

Woodbridge, Arthur Charles Churchman, 1st Baron, of Ipswich, Suffolk, British politician and former vice-chairman of the British-American Tobacco Company (b Sept 7, 1867 -d South Africa, Feb 3), was M P for Woodbridge, Suffolk, 1920-29, and was created a baron in 1932

Xoxe, Koçi, Albanian politician (b Negovan, Albania, May 1, 1911– -d [executed] Tirana, June 11), was a blacksmith, of Orthodox faith, who became active as a labour leader at Korçe and in 1937 was elected to the municipal council Intermittently arrested for activities against King Zog I before the Italian occupation, he became in 1941 an organizer of the Albanian Communist party and two years later of the Albanian Liberation army in which he appointed himself a lieutenant general On Dec 2, 1945, he was elected deputy for Korçe to the Albanian Constituent Assembly, and on Jan 11, 1946, he became vice-president of the assembly, at the same time succeeding Enver Hoxha (*q v*) as secretary general of the Albanian Communist party On March 22 of the same year he was appointed deputy prime minister and minister of the interior Between 1946 and mid-1948 it was Xoxe who held the real power in Albania, Hoxha being largely a figurehead In July 1947 both Albanian leaders paid an official visit to Moscow, but on Oct 6, 1948, Xoxe was dismissed as a supporter of Tito's Nationalist heresy and arrested with many political friends After months of detention, he was tried *in camera* by the Supreme Court in Tirana, and on June 10, 1949, was sentenced to death for anti-Soviet tendencies He was shot the following day

Zaim, Husni ez-, Syrian army officer of Kurdish extraction (b Aleppo, 1897 –d Damascus, Aug 14) Trained as a cadet in the Turkish army, he served under Fakhri Pasha against the Arabs in 1914-18 and was taken prisoner at Medina In 1920 he joined the French levies in Syria, rose to the rank of colonel and commanded a brigade which took part in the fighting ordered by the Vichy government against the Allied forces entering Syria in 1941 After a period of imprisonment under the Allied occupation, he was appointed inspector general of police of the Syrian republic In May 1948 he became chief of staff in the Syrian army On March 30, 1949, he led the military coup d'etat which overthrew the Shukri el-Quwatli regime By a referendum of June 25 he was elected president of Syria by over 60% of the votes and took the rank of marshal His head was turned by power, and he resorted to wholesale arrests, often of former friends and supporters Soon the army turned against him and early in the morning of Aug 14 he was taken from his residence and shot by a group of officers led by Colonel Sami Hinnawi

Zamora y Torres, Niceto Alcala, exiled former president of the Spanish Republic (b Priego, Spain, July 6, 1877 -d Buenos Aires, Argentina, Feb 18), was educated at the universities of Granada and Madrid, taking a doctorate of law and specializing in administrative law He was elected as a Liberal deputy, and in 1917 became a member of the cabinet, first as minister of public works and later as minister of war During the agitation against the Spanish royal family in the decade following World War I, Zamora held a moderate course, though he finally came out publicly in favour of a republic in 1930 He was arrested in Dec 1930 for conspiracy and sentenced to six months' imprisonment It was under his leadership that the republicans ordered King Alfonso to abdicate, and Zamora was installed as provisional president and later as the first constitutional president of the second Spanish Republic In April, 1936, he was removed by a motion of the Socialists on grounds of having dissolved parliament illegally He was out of favour when the Franco regime acquired power through the Civil War and he was exiled and sentenced to loss of nationality and a fine of all his fortune in Spain

OBSTETRICS: *see* GYNÆCOLOGY AND OBSTETRICS

OCEANOGRAPHY. The Pacific Science congress, meeting in New Zealand at the beginning of 1949, asked for more intensive studies of the interaction between the sea and atmosphere, the deep-water circulation in the oceans, the structure and topography of the sea bottom and the effect of waves and currents on shore lines.

The most notable publications of the year were the proceedings of the general assembly of the Association of Physical Oceanography at Oslo, issued by the secretariat of the association in the Geophysical institute at Bergen, and a collection of 41 papers by U S. oceanographers in a special volume of the *Journal of Marine Research* (Yale) to commemorate the 60th birthday of Professor H. U. Sverdrup, retiring director of the Scripps Institution of Oceanography.

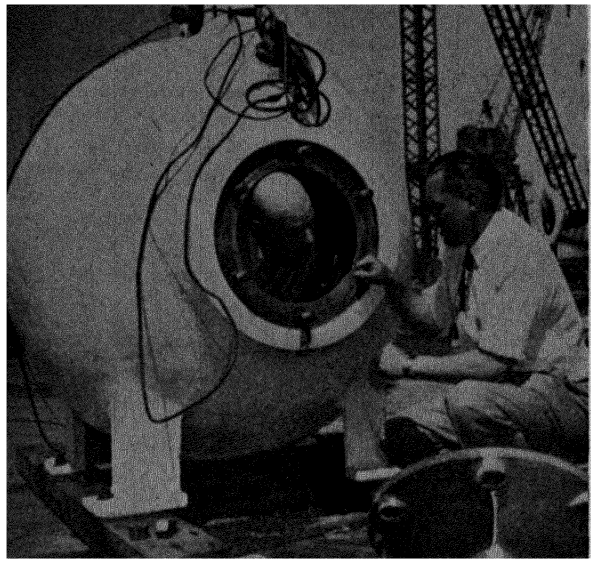
Many of the papers dealt with the theory of fluid motion and the processes of stirring and mixing in the oceans. C O'D. Iselin, in a paper on developments in the study of the Gulf stream, showed that at any one time the current could be very different from the average picture gained over many years from thousands of ships' observations of drift Between Cape Hatteras and Nova Scotia the ocean is well covered by the " Loran " navigational aid, and the drift of a ship manoeuvred in and out of the current can be plotted with great accuracy Using such techniques the research vessel " Atlantis " showed that the tendency of the current was to follow a meandering course, being often very narrow and faster than the charted velocity, but with strong eddies and counter-currents On one occasion, while investigating a three to four knot counter-current, she passed several freighters bound for Europe stemming the unfavourable current for six hours or more. The setback would probably be made good within the 24 hr., in a more favourable part of the current, and in general navigation the average day's run would probably indicate a forward set approximately equal to the charted current velocity.

In another of the papers A F. Spilhams and A. R. Miller, in the description of a new sea sampler, showed how the instrument would make a record of temperature against depth and collect water samples at 12 pre-determined depths between a depth of 450 ft. and the surface, without stopping the ship. The apparatus was particularly useful in studying the mixing between deep and shallow waters at the edge of the continental shelf

M. S. Longuet-Higgins studied the electromotive forces of a few millivolts per kilometre induced by the tidal movement of water relative to the earth's magnetic field in the English channel. (" The Electrical and Magnetic Effects of Tidal Streams," Royal Astr. Soc., *Geophys. Supp.*, vol. 5, no. 8, London, 1949). The horizontal potential gradients are almost independent of vertical differences in velocity, but are affected critically by the depth of water and the conductivity of the sea bed. The induced electric currents can be expected to extend to depths comparable with the width of the channel, and it was shown that tidally generated electric currents could be measured in the earth some distance inland.

Recent theoretical and experimental researches on waves and swell and possible applications of new methods of analysing records of sea waves and microseismic waves, were summarized by G. E. R Deacon ("Waves and Swell," *Quart. Journ. Royal Met. Soc.*, vol. 75, no. 325, London, July 1949; " Storm Warnings from Waves and Microseisms," *Weather*, vol. 4, no. 3, London. March 1949).

In most centres of oceanographical research considerable attention was paid to the effect of the stress of the wind on the surface of the sea. Theoretical and practical evidence was put forward to show that the eddy-viscosity depends on the scale of the phenomenon; in explaining the generation of a drift current it was reasonable to assume a much higher value for the viscosity between the air and water than could be tolerated in accounting for the decay of waves. Semi-quantitative demonstrations were given for several parts of the ocean to show that the permanent ocean currents are



Otis Barton of Boston, Massachusetts, inside the benthoscope in which he descended 4,500 ft. in the Pacific ocean on Aug. 16, 1949.

maintained by the prevailing winds; horizontal density gradients maintained by differences in climate are not likely to give rise to water movements faster than 1 cm. a second. It was emphasized that more detailed knowledge of how the energy of the wind was distributed among waves, connection movement, and drift currents was an essential step towards the preparation of a more complete picture of the distribution of physical properties in the oceans. (G. E. R. D.)

OILS AND FATS, VEGETABLE AND ANIMAL: *see* VEGETABLE OILS AND ANIMAL FATS.

O'KELLY, SEÁN THOMAS, Irish statesman (b. Aug. 25, 1882) was educated at O'Connell schools, Dublin. A member of the Irish Republican brotherhood when only 18, he was in 1905 one of the founders of Sinn Féin. Next year he became the first city councillor of Dublin to be elected as a Sinn Féin candidate. He early came under the influence of Douglas Hyde, later first president of Eire, and in 1915 was secretary general of Hyde's Gaelic league. In 1914 he had led the volunteer detachment which smuggled in arms at Kilcoole, Co. Wicklow; in the 1916 rising he fought in the G.P.O. as staff officer to Padraic Pearse and after the latter's surrender was imprisoned for the remainder of the year. Returned for mid-Dublin in the 1918 election, he became speaker of Dáil Eireann, but in the following year was sent to Paris as first foreign envoy of the Irish republic. He was dismissed from this post by the Arthur Griffith government when he declared against the Anglo-Irish treaty of 1921. In 1922 he was arrested and imprisoned until the general amnesty of 1923. In 1926 he became deputy-leader of Eamon de Valera's new Fianna Fáil party and from 1927 held his seat for North Dublin uninterruptedly until elected president, serving as minister for local government from 1932 to 1939 when for a short time he was minister of education before becoming minister of finance. O'Kelly was nominated by Fianna Fáil (Soldiers of Destiny) as candidate for the presidency in the election in 1945; he was elected with a majority of 110,000 over General Seán McKeon, Fine Gael (Irish Clan), and took office from Hyde on June 25, 1945. On April 18, 1949, exactly 23 years after the Easter Monday risings he inaugurated the republic of Ireland. (R. KN.)

OMAN AND MASQAT: *see* ARABIA.

ORGANIZATION FOR EUROPEAN ECONOMIC CO-OPERATION (O.E.E.C.): *see* EUROPEAN RECOVERY PROGRAMME.

ORGANIZATION OF AMERICAN STATES. At the beginning and again at the end of 1949 the Organization of American States was confronted with international situations which threatened the peace of the continent and required the application of the Inter-American Treaty of Reciprocal Assistance. This treaty, which was signed at Rio de Janeiro on Sept. 2, 1947, and came into force on Dec. 3, 1948, is a mutual assistance pact under which the signatory states agree to act collectively in the event of an aggression or threat of aggression against any one of them.

The first application of the treaty occurred in Dec. 1948, when the government of Costa Rica alleged that its territory had been invaded by armed forces proceeding from Nicaragua. The council of the organization, acting provisionally as the organ of consultation under the Rio de Janeiro treaty, sent a diplomatic commission of investigation, composed of representatives of Brazil, Colombia, Mexico and the United States. In Jan. 1949, following the presentation of the report of the commission, the council of the organization made a series of recommendations and sent a commission of military experts to Costa Rica and Nicaragua to observe the application of its proposals. This group was composed of representatives of the four countries which comprised the diplomatic commission and Paraguay. A pact of amity was signed on Feb. 21, 1949, and subsequently ratified by both governments.

In Feb. 1949 the government of Haiti sought to have recourse to the Rio de Janeiro treaty, alleging that the Dominican Republic was permitting its territory to be used for radio broadcasts that threatened the peace of the two countries. The council of the organization decided not to apply the treaty and Haiti thereupon requested the good offices of the Inter-American Peace committee, composed of representatives of Argentina, Brazil, Cuba, Mexico and the United States. The Committee sent a delegation to the two countries, following which representatives of the two governments signed a joint declaration on June 11, 1949. Although by this statement the two governments undertook to settle by peaceful means any difference that might arise between them, no permanent solution was found; and on Jan. 6, 1950, the council of the organization decided to proceed in accordance with the provisions of the treaty. This action was taken at the request of Haiti, which invoked the treaty against the Dominican Republic, and also at the request of the Dominican Republic, which made charges against both Haiti and Cuba.

In accordance with a resolution of the Bogotá conference, the council convoked the American Committee on Dependent Territories to assemble in Havana, Cuba, on March 15, 1949. The committee was in session until July 21, 1949. The final act of the committee and a report on its work were transmitted to the council.

On Nov. 16, 1949, Luis Quintanilla, Mexico, and Héctor David Castro, El Salvador, were chosen chairman and vice chairman respectively of the council of the organization for 1950. (W. MR.)

OSTEOPATHY. The year 1949 was one of steady progress in the profession of osteopathy in Great Britain, both in education and in the field of organization.

The number of students at the British School of Osteopathy increased and the difficulties experienced in re-starting the school after World War II were finally overcome. There was every sign that an increasing number of suitable young men and women would be anxious to take up osteopathy as a career and the school and the profession hoped to expand educational facilities to meet this demand. The annual post-graduate course for qualified osteopaths, instituted in 1948,

proved valuable in bringing members of the profession together and in helping to keep them abreast of new ideas and new methods. The Osteopathic Educational foundation had already done much for osteopathic education after its inception in 1945; but expansion of educational facilities was conditioned by financial factors. Assistance in this direction would in future be given by a new organization of lay helpers inaugurated in 1949 and known as the British Osteopathic league, which would endeavour to raise money for osteopathic funds by various kinds of social gatherings and entertainments.

The work of organizing the Register of Osteopaths made further progress during the year. The number of qualified osteopaths registered reached 166. The officers of the Register did much valuable work in giving authoritative information to the public about osteopathy and in protecting the public and the profession against untrained practitioners and unethical conduct or advertising.

Osteopathy received a good deal of publicity during the year both in the public press and medical journals. This publicity was on the whole useful as showing interest in osteopathy among the public and even certain sections of the medical profession. (J. C. P. P.)

OTTAWA. The capital of Canada is at the confluence of the Rideau and the Ottawa rivers in Ontario. On Dec. 31, 1949, in its 11th annexation in 50 years, Ottawa took over parts of bordering townships of Gloucester and Nepean, increasing the area of the city proper by 22,125 ac. and making its total area 28,134 ac. The population automatically increased by 27,500, to bring the total to 191,442 (plus about 17,000 in outlying areas and the remaining townships).

A plan for the development of Ottawa as a capital worthy of the Canadian nation was published. One of the leading town planners of Europe, Professor Jacques Greber, of Paris, was employed to work out a master plan for a tract of 940 sq. mi., 346 of them in Ontario and the rest in Quebec. The city would only cover a fraction of this area. The remainder would be parks, protected farm land, and some 80 sq. mi. of water in rivers and lakes.

The Federal district commission set up a special committee to deal with expropriation prices. The city council purchased the Ottawa Light Heat and Power company, making the Ottawa hydro sole distributor of electricity and started a $6 million scheme to extend the water service.

Statistics for 1948 included: government and industrial pay rolls at a record peak of $100 million; average weekly wages, $34·48 (1947: $31·69); assessment $184·9 million (1947: $177·8 million).

OUTER MONGOLIA: *see* MONGOLIAN PEOPLE'S REPUBLIC.

OXFORD UNIVERSITY. In the summer of 1949, 6,218 men and 1,076 women were in residence, both numbers being slightly smaller than in the previous year. The proportion of students reading different groups of subjects remained very nearly as recorded for 1948.

The Spalding professorship of eastern religions and ethics was established permanently by a gift of £42,000 from Mr. and Mrs. H. N. Spalding. Professor Sir S. Radhakrishnan remained professor but was granted one year's leave of absence to act as Indian ambassador at Moscow. Dr. G. D. Kilpatrick succeeded Professor R. H. Lightfoot as Dean Ireland's professor of exegesis; Dr. H. G. Hanbury, Professor G. C. Cheshire as Vinerian professor of English law; and Dr. J. Trueta, Professor H. J. Seddon as Nuffield professor of orthopædic surgery.

J. T. Christie, headmaster of Westminster school was elected to succeed the late Sir Frederick Ogilvie as principal of Jesus; Sir David Keir, vice-chancellor of Queen's university, Belfast, to succeed Lord Lindsay of Birker as master



***The Earl of Halifax**, chancellor of Oxford university, leading the procession to the site of Nuffield college for the laying of the foundation stone on April 21, 1949. Walking behind, on left, is Viscount Nuffield.*

of Balliol, and Professor H. Last, fellow of Brasenose college, to succeed the late Dr. W. T. S. Stallybrass as principal of Brasenose.

On April 21 the foundation stone of Nuffield college was laid by the chancellor, the Earl of Halifax, in the presence of the founder, Viscount Nuffield. Sir Henry Clay retired from the wardenship of the college on Sept. 30. A. Loveday was appointed to succeed him.

The university joined the city council in opposing an order made by the minister of fuel and power under which the gas works, which dominate the city on the south, would have been extended over an adjoining area of 19 ac. The opposition was successful; and it was generally agreed that the next step must be the framing of a continuous programme under which the gas works would be removed altogether.

University college on July 1 celebrated the seventh centenary of its first historical endowment by William of Durham. The bicentenary of the opening of the Radcliffe Camera was celebrated by a luncheon at University college (of which Dr. Radcliffe was a member) on April 20, followed by an address by Lord Cottesloe, the chairman of the trustees, in the Radcliffe Camera. Gifts and bequests included £10,000 a year for seven years from the Pressed Steel company for research fellowships in various scientific laboratories. Of the total income of the university, 48% was made up of government grants.

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PACIFIC ISLANDS, BRITISH. These islands include the colony of Fiji (consisting of a number of islands), the British Solomon Islands protectorate, the Gilbert and Ellice Islands colony, the protected state of Tonga and Pitcairn island. Total area: 19,125 sq. mi. Total pop. (1947 est.): 444,862. It would be incorrect to describe the New Hebrides (area, 4,633 sq. mi.; pop. about 48,000), an Anglo-French condominium, as British, but it should be mentioned here (*see* also FRENCH UNION). Governor and high commissioner: Sir Brian Freeston.

History. The defences of Fiji were re-organized in 1949. Its importance as a communication centre in the South Pacific made its security of special concern to New Zealand and that government, therefore, lent an officer for the triple role of commandant of the Fiji military forces, liaison officer with the New Zealand chiefs of staff and defence adviser to the government of the colony. With his assistance a Military Forces bill—to fix the establishments for new military units and the timetable for their creation and training—was framed and laid before the Legislative Council.

A committee of six members representative equally of the three (European, Fijian and Indian) communities, appointed in 1948 to consider constitutional reform in Fiji, reported unanimously in July advocating only small changes, though three members signed with reservations in respect of certain points and submitted minority reports. Their proposals recommended: (1) an Executive Council consisting of the governor as president, four *ex-officio* and three (one from each of the communities) unofficial members; these last to be members of the Legislative Council chosen by the governor from a panel of six comprised of two members of each racial group; (2) a Legislative Council consisting of the governor as president, four *ex-officio*, 12 official and 15 unofficial (comprising five Europeans elected by the European electorate, five Fijians elected by the Council of Chiefs and five Indians elected by the Indian electorate) members.

The quasi-nationalist political movement known as Marching Rule, which in the previous 2-3 years had to a large extent dominated Native affairs in the British Solomons and had done incalculable harm by materially slowing up the progress of the island group, was reported to have lost ground.

Finance and Trade. Currency: Fiji, £F111=£100; in the Solomons, Gilbert and Ellice Islands and Tonga, United Kingdom and Australia currency are legal tender, though Tonga issues its own notes and in all three territories the exchange standard system is based on Australian currency; in the New Hebrides sterling and French currency are both legal tender.

	Revenue	Expenditure	Imports	Exports
Fiji	£F2,915,999[a]	£F2,933,920[a]	£F5,944,834[e]	£F7,789,512[e]
Solomon Is	£A630,281[b]	£A630,281[b]	£A320,655[f]	£A154,000[f]
Gilbert and Ellice Is	£A479,290[c]	£A479,290[c]	£A197,850[e]	—
Tonga	£T302,000[c]	£T323,243[c]	£T677,123[e]	£T850,000[e]
New Hebrides	£83,209[d]	£49,220[d]	£400,512[e]	£988,403[e]

a 1949 est. *b* 1948-49 est. *c* 1949-50 est.
d 1947 actual, in condominium only the respective British and French administrations each have supplementary budgets.
e 1948. *f* April-Dec. 1948.
NOTE: the Solomon Islands and Gilbert and Ellice Islands revenue figures include grants in aid of £A361,368 and £A160,002 respectively.

Principal exports: sugar and gold bullion (Fiji), phosphates (Ocean Island in the Gilbert and Ellice Islands) and copra. (J. A. HU.)

PACIFIC ISLANDS, FRENCH: *see* FRENCH UNION.

PACIFIC ISLANDS, U.S.: *see* UNITED STATES TERRITORIES AND POSSESSIONS.

PACIFIC ISLANDS UNDER TRUSTEESHIP: *see* TRUST TERRITORIES.

PAINTING. For a century France has constituted the most powerful force in the visual arts of western civilization. Gradually, however, as the great names in contemporary painting are realized to be no longer young, not only is the problem of succession posed with growing insistence, but national movements in painting assume more and more the character of provincial variants of a common language. Small signs accumulated during 1949 that the impetus behind the latter-day revolutions had spent itself and that consolidation and synthesis were the aims that painters would set themselves. It was significant, for example, that the Paul Gauguin exhibition in Paris was hailed as bridging the constructivism of Paul Cézanne and the expressionism of Vincent Van Gogh and providing a synthesis upon which the future could build. One could note, on the one hand, the *volte face* of an artist like Giorgio De Chirico, who now renounced his earlier surrealism and wished to return to tradition; on the other, the admittance in 1949 by the conservative Royal academy in London of a gallery of "modern" painting. Beneath the surface froth of conflicting theories, indeed, strong tides could be sensed moving towards unification. It would have been a mistake to seek in this tendency indications of a return to purely objective realism—that, it could be taken for granted, was a thing of the past. Either society as a whole would learn to understand this new language of painting, or art would be encouraged for its therapeutic properties in schools, hospitals and prisons; or it would retain a faint, vestigial existence under governmental patronage and otherwise disappear into the new problems of industrial design (for the man-in-the-street would as happily accept distortions and abstractions in his applied arts as he would through habit reject them in his fine arts). Against this general slowing up, then, of the radicalism of the first half of the century could be seen the developments of 1949.

In Great Britain the neo-romantic movement which emerged after World War II lost a good deal of its ebullience and many of its specifically indigenous qualities. Graham Sutherland, its leading painter, completed his first important portrait (of Somerset Maugham) but exhibited no new work. John Piper was commissioned by the government to undertake six decorative panels on themes of Regency architecture for the British embassy in Rio de Janeiro—the first example in the

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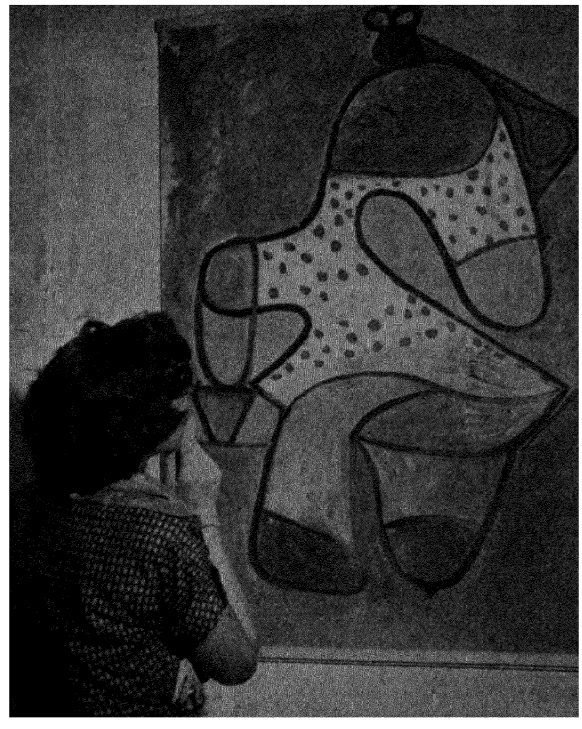
country of official patronage of this kind. The younger wing of the movement—Robert Colquhoun, John Craxton, Robert MacBryde, John Minton and Keith Vaughan—seemed, in many cases, to be marking time (though it may be noted that both Craxton and Minton boldly attempted statements on a considerable scale). A relative newcomer, Prunella Clough, whose work related to these artists, promised to go far. Two painters on the most literary wing, Francis Bacon and Edward Burra, showed examples of their ominous, macabre and often powerful talents. From the other extreme of complete formalism relatively little came to light, but William Gear and Peter Foldes showed interesting work of a non-figurative kind. Perhaps the most intriguing development in this field was the arrival of Victor Pasmore, once the most talented painter of the so-called Euston Road group, at the stage of the abstract *collage*—the very negation and antithesis of all the neo-impressionist realism the group stood for a decade before. Other original members, pupils and followers performed a useful function within the Royal academy, where they served to leaven the stodgier painting and to stiffen the more frivolous with their often unimaginative but always serious pictures. Ivon Hitchens could be instanced as an unattached artist, whose flashing horizontal canvases showed during the year that his powers were in no way diminished. Matthew Smith, who likewise derived ultimately from the *fauvist* movement, was created a C.B.E. for his services to painting.

In France the form, as always, seemed more important than the content. The scene was still dominated by Pablo Picasso, Georges Braque, Fernand Léger and Henri Matisse, all of whom were shown extensively during the year. Matisse continued work upon the designs for the chapel Ste. Marie du Rosaire, to be built at Vence. Younger painters swung between the figurative and the non-figurative. Broadly, the former attempted to integrate the diverse discoveries of their elders, and a number—among them Jean Bazaine, Pierre Tal Coat, André Fougeron, Alfred Manessier, Edouard Pignon and Francis Tailleux—achieved a personal idiom of near-abstraction which, however, never departed completely from the object. In contrast to much of this painting, which with a fine disdain for *cuisine*, relied often upon scribbled expanses of very thin paint, might be cited the work of Bernard Buffet, Clavé and Claude Venard whose approach was altogether richer and warmer in colour, texture and humanity. The leading figures of the non-figurative school, which leaned towards an excessively linear treatment, were perhaps Hans Hartung and Gerard Schneider. It was not easy to see in the work of any of these Parisian painters, however, more than facility and a tradional feeling for the medium.

A particularly strong group of non-figurative or "concrete" artists was to be found in Sweden, where Olle Bonnier, Karl Axel Pehrson and Pierre Olofson not only exhibited together but decorated the exterior of a large sports exhibition in Stockholm in a manner recalling earlier Bauhaus experiments. Italian painters, having entered with vehemence into the contemporary movements of Europe in the postwar period, began to settle down to enjoy their creative freedom. Germany had begun to extricate itself from the slough of its recent past, and under such names as Carl Hofer, Willi Baumeister, Max Pechstein and Karl Schmidt-Rottluff (all of them teaching in the academies) felt its way towards the main stream again: it was noticeable that the more extreme aspects of disillusion, which were so marked a feature of the years after World War I were much less in evidence in 1949. Belgian painting lost a historic figure with the death of James Ensor (*see* OBITUARIES); Anglo-Polish painting suffered by the death of Jankl Adler and international theatre design through the death of Christian Bérard (*see* OBITUARIES). (M. H. MN.)

United States. The cultural crisis of painting, concerned more and more with rarified problems of form and void of human significance, was discussed in magazine articles by such leaders of U.S. artistic life as Lincoln Kirstein, Lester Longman and Francis Taylor. At the same time a crusade against modern art was carried on but was vigorously opposed by Alfred Barr, Jr., and Emily Genauer. Illustrated magazines such as *Life*, *View*, etc., contributed to bring contemporary painting in all aspects to the attention of millions of readers. A number of round-table discussions held by *Life*, Columbia university and the California School of Fine Arts, San Francisco, California, shared a public concern with contemporary art expression in painting.



"Portrait of a little girl" by Pablo Picasso exhibited at the Maison de la Pennée Française gallery, Paris, Aug. 1949.

The international exchange of travelling exhibitions of old and modern masters increased. Especially important was the show of contemporary Italian art at the Museum of Modern Art, New York city. Works were contributed by 116 U.S. painters and collectors to the three museums of Israel.

Anton Refregier finished his impressive cycle of wall paintings dealing with the history of life in early California in the Rincon Post Office annexe in San Francisco. Rico Lebrun completed his vast "Crucifixion" series which was shortly to go on display at the Los Angeles County museum. Peter Blume brought to completion and displayed another absorbing composition, "The Rock."

The first prize at the Carnegie institute's annual exhibit went in 1949 to Max Beckmann, who received an invitation to join the staff of the Brooklyn Museum Art school, Brooklyn, New York. The influence of this powerful artist, a newcomer to the United States, was already felt in the work of younger artists. Yet away from the main road of art Grandma Moses remained the favourite of the U.S. public: there existed a wide margin between the taste of the people and the main currents of contemporary painting. (*See* also ART EXHIBITIONS; ART SALES; DRAWING AND ENGRAVING; MUSEUMS.) (A. NR.)

PAINTS AND VARNISHES. Developments in the paint industry during 1949 were mainly improvements in established principles and techniques.

Since many pigments contain a high proportion of heavy metals, the wastage of available ore deposits and the difficulty of discovering and working new sources indicated increasing prices for these materials. To meet these circumstances a new pigment concept was evolved. Basically this consisted of coating an inert extender such as silica with a thin layer of active pigment sufficient to give the necessary life for normal paints.

Considerable attention was given to the development and investigation of titanium dioxide and interest centred on new titanium deposits discovered at Allard Lake, Quebec, Canada. A light stable pigment was claimed to have been obtained by exposing titanium dioxide to aluminium chloride vapour at a temperature in excess of 300°C, followed by calcination at 800°C.

An important advance in grinding technique was the introduction of a reductionizer which comminuted solid materials to very small particle sizes by impact and attrition in a curved tube through which a current of superheated steam or compressed air was passed. It was claimed that pigment materials treated thus could be ground fine enough for nothing to be retained on a 325-mesh U.S. testing sieve.

Considerable interest was aroused by the possibility of including silicones in paint formulations. They could be treated at high temperatures for long periods without crazing or becoming brittle. On account of their good heat resistance a range of electrical insulations resistant to very high temperatures became possible. Many silicones were highly water repellent and so were used to render surfaces hydrophobic.

There was much investigation and increased use of materials that were not orthodox paint constituents. Paint oils from wool fats and fish were more widely used and the possibility of obtaining paint oils from seaweed and sisal leaf was examined.

Supply sources of petroleum chemicals for use in the paint industry increased during 1949. In Great Britain, the new Catarole plant at Partington, Cheshire, produced materials for paint, varnish, rubber and plastic products and for dyestuffs; the new chemical solvents plant at Stanlow, Cheshire, produced ketones, alcohols and ethers, many of which are useful in surface coatings.

A novel testing technique developed was the application of ultrasonics to the paint industry. It was claimed that the adhesion properties of synthetic paints and varnishes could be tested in less than a second with an instrument that used ultrasonic waves. (E. N. T.)

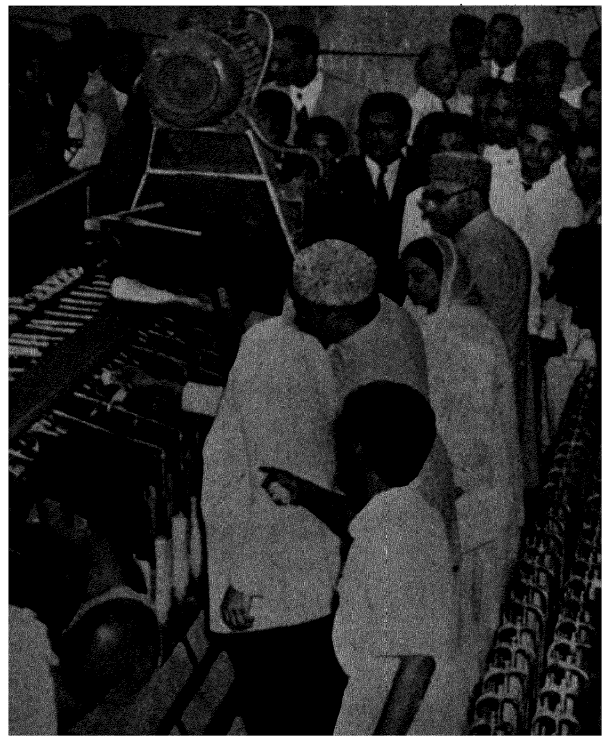
PAKISTAN, DOMINION OF.[1] A self-governing member of the Commonwealth of Nations. Total area (excluding Kashmir): *c.* 337,524 sq. mi., composed as follows :

	Area (in sq. mi.)	*Population* (1941 census or est.)
Sind	48,136	4,535,000
West Punjab	62,100	15,800,000
North-West Frontier Province:		
(a) administered area	14,200	3,038,067
(b) tribal area	24,986	2,500,000
Baluchistan	134,002	857,835
Western Pakistan	283,424	26,730,902
Eastern Pakistan	54,100	41,880,000
Total	337,524	68,610,902

[1] The name Pak(i)stan is composed of letters taken from the names of its components: *P*unjab, North-West Frontier province (of which the inhabitants are mainly *A*fghan), *K*ashmir (a province still in dispute with India), *S*ind and Baluchis*tan*. The name was invented by C. Rahmat Ali, founder of the Pakistan movement, in 1933. The word *pak* means also "pure" or "clean."

As a result of the partition of the Indian sub-continent in Aug. 1947, by the end of 1948 nearly 6,599,000 Moslems entered Pakistan and about 5,563,000 non-Moslems migrated to India: the net increase in population resulting from this great migration was over a million. The total population in 1948 was estimated at 73,321,000. Languages: mainly Urdu, Punjabi, Baluchi and Pushtu in Western Pakistan and Bengali in Eastern Pakistan, but English remained in use as a medium of instruction in higher education. Religion: mostly Moslem (72·9%), with Sikh, Hindu, Christian, Parsee and other minorities. Chief towns (pop., 1941 census): Karachi (cap., 359,492; 1948 est. *c.* 1,000,000); Lahore (671,659; 1948 est., *c.* 1,000,000); Dacca (213,218); Rawalpindi (181,169); Multan (142,768); Sialkot (138,348); Peshawar (130,967). Pakistan is a federation of provinces, and the federal executive consists of a cabinet of ministers appointed by the governor-general from members of the legislature and answerable to it. The Pakistan Constituent Assembly, elected on the basis of one member for every million inhabitants, was also the federal legislature. In addition, each of the four provinces (East Bengal, West Punjab, North-West Frontier Province and Sind) has an executive consisting of a governor in council responsible to the provincial legislature. Governor general, Khwaja Nazimuddin; prime minister, Liaquat Ali Khan (*q.v.*); minister of foreign affairs and Commonwealth relations, Sir Mohammad Zafrullah Khan (*q.v.*).

History. As in the preceding year, the chief problem in 1949 was that of the "cold war" with the dominion of India over Kashmir. It was hoped that a settlement was in sight when it was announced, on the first day of the year, that the United Nations Conciliation commission had arranged a cease-fire, preparatory to a truce and to arrangements for holding a plebiscite. The commission proposed that the cease-fire arrangements should include: (a) the withdrawal of the tribesman and other unauthorized Pakistani nationals; (b) the withdrawal of the Pakistani army; (c) the withdrawal of the bulk of the Indian army. After this, arrangements were to



Liaquat Ali Khan (wearing glasses) and Begum Ali Khan visiting the Valika textile mills, Karachi, Sept. 16, 1949.

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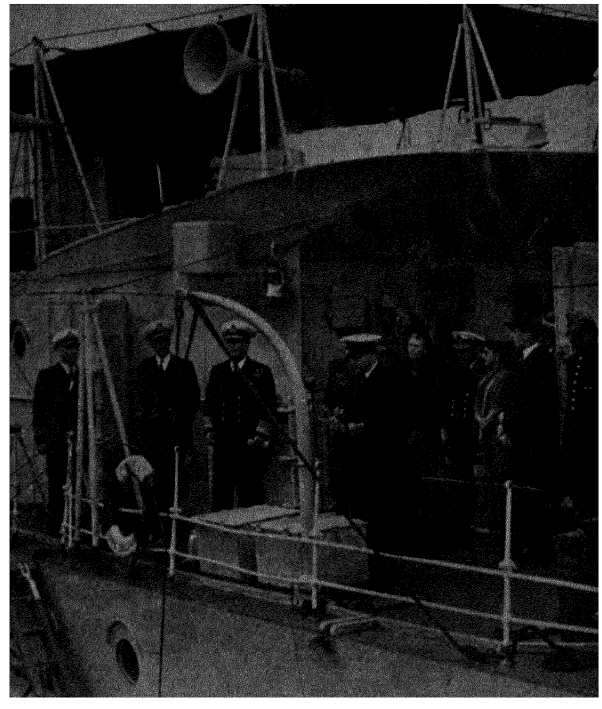
be made for ascertaining the will of the people by a free and impartial vote. The subsequent delays, finally ended in a deadlock (*see* INDIA). The government of India assumed an intransigent attitude throughout the proceedings and insisted as a preliminary on the disbandment of the Azad Kashmir forces, which would leave the Moslem population at the mercy of the rival faction under Sheikh Abdullah. Much disquiet was aroused by the recognition on the part of the Indian government of the son of Sir Hari Singh as maharaja, which was regarded in Pakistan as a ruse for the perpetuation of Dogra rule over the masses.

One of the major difficulties created by the partition was over the canals. In Western Pakistan, with its low rainfall, the water-supply was a matter of life and death for millions. The Ravi, Beas and Sutlej rivers rise in Indian territory and lower down they join the Indus. West Punjab and Sind depend for their livelihood on the complicated system of canals derived from this source. At the time of the partition, it was assumed that the system would remain intact and that some machinery for their joint control would be set up. After the partition, however, India put in a claim for the absolute control of all waters passing through its territories. The matter was discussed at an inter-dominion conference held at New Delhi in August, but no agreement was arrived at. It was felt that, failing a solution, the matter should be referred to the U.N. Security council.

Another cause of tension was the failure to settle the question of evacuee property. By an agreement arrived at in January, it was decided that the arrangement arrived at should be confined to the East Punjab and adjacent areas of the United Provinces, as it was only in these districts that substantial movements of the population had occurred. The Indian government on the other hand contended that it should apply to the whole of India. If this were admitted, Moslems in any part of the country would be liable to be deprived of their possessions, and this again would start a fresh exodus of refugees into Pakistan. On the other hand, the Indian government accused Pakistan of banning sales and exchanges of immovable evacuee property and of taking over about a dozen of the leading non-Moslem firms in Karachi, on the ground that they were intending to leave the country.

The relations of the provinces with the central government were not altogether satisfactory. The exception was East Bengal, where Khwaja Nazimuddin was succeeded by his colleague Nural Amin, and the questions arising out of the influx of Hindus to West Bengal and a threatened famine were promptly dealt with. The only effective opposition was provided by the Congress party under H. S. Suhrawardy. In West Punjab a drive to put an end to political jobbery and corruption led to the resignation of the governor, Sir Francis Mudie, who came into conflict with the local branch of the Moslem League owing to his vigorous methods to combat the evil. Similar trouble had already arisen in Sind, where the prime minister, M. A. Khuhro, was removed, and his successor, Pir Illahi Bux, suffered a similar fate.

More serious was the friction which arose in the North-West Frontier Province, where the Pathans had never really been reconciled to Pakistani rule. The Durand line demarcated between Britain and Afghanistan in 1892 had left a kind of no-man's-land between the two countries, where order had been kept by the establishment of strong points connected by strategic roads from which expeditions could be sent to deal with parties of raiders seeking to enter British territory. The position had never been satisfactory and, after the withdrawal of the British garrison, the Afghan government had sought to win over the Pathan tribesmen by encouraging malcontents like the fakir of Ipi and exploiting local grievances (*see* also AFGHANISTAN). One of the last achievements of the *Quaid-i-Azam*, M. A. Jinnah, had been to counteract these attempts



Viscount Hall, first lord of the Admiralty, handing over H.M.S. "Onslow" to the Pakistan high commissioner in London for transfer to the Pakistan navy as H.M.P.S. "Tippu Sultan," Devonport, Sept. 30, 1949.

to stir up trouble by taking active measures to alleviate the poverty which was at the root of the discontent. Work was to be found for the tribesmen in road-building and hydro-electric schemes, irrigation and cottage industries. The most comprehensive of these schemes was one for the settlement of the unruly tribe of the Mahsuds of southern Waziristan in the Dera Ismail Khan district. About 2,000 ac. were allotted for the purpose, and further 5,000 ac. were being cleared for distribution when fit for cultivation. It was estimated that over 500 families would be settled in the area on holdings between 12 and 25 ac. within the next five years, and would be self-supporting.

The key to prosperity lay in co-operation between the two dominions. Their economics were complementary. Pakistan had certain raw materials, whereas India had coal, iron and manufacturing facilities; but the two had to be harnessed together in order to attract the foreign capital necessary for their development. The chief obstacle in the way of agreement was the deadlock over Kashmir. "Once Kashmir is out of the way," the prime minister of Pakistan was reported to have said, "there should be nothing to divide us."

Despite all handicaps, the economic outlook was hopeful. The State bank accomplished the difficult task of withdrawing Indian notes circulating in Pakistan and replacing them by its own currency, and partly received Pakistan's share of the assets of the Reserve Bank of India. In order to keep down the cost of living and maintain conditions favourable to the country's development, it was decided not to devalue the rupee. Pakistan's exports, mostly jute, cotton, hides, skins and wool, did not admit of any appreciable expansion. On Nov. 25 the first Islamic international industrial and economic conference and commercial exhibition was opened at Karachi, and was the first attempt to unite the Moslem world on the basis of Islamic principles rather than political alliances. (*See* ISLAM.)

Of special significance was the movement to cultivate

friendly relations with the U.S.S.R. The prime minister, Liaquat Ali Khan was invited to Moscow, and Shoaib Quereshi, formerly foreign minister of Bhopal state, was appointed first ambassador of Pakistan to the U.S.S.R.

(H G. RN.)

Agriculture and Fisheries. Main crops ('000 metric tons, 1948): rice, paddy, 11,621, wheat 3,317; barley 136; sugar, in terms of gur, 998; jute 994 (71% of the Indo-Pakistani subcontinent); cotton, ginned, 212; linseed 13, sesame 35; tea 20, tobacco (with India, 1947) 454. Livestock (in '000 head, 1939 est) cattle 24,444; sheep 5,941; pigs 73; horses 1,461; goats 7,982; camels 5,303. Production of wool (in '000 metric tons on greasy basis, 1948-49) 11. Fisheries, annual catch estimated at 33 million lb.

Industry. Factories (1944 est) 1,261; persons employed 186,814 Fuel and power (1948, 1949, six months, in brackets) coal and lignite ('000 metric tons) 241 (173), electricity (million kwh) 130 (77), crude oil ('000 metric tons) 47 6 (36·5). Raw materials ('000 metric tons, 1944 est)· salt 93; gypsum 25; chromite 21. Manufactured goods (1948): cotton cloth (million m) 86; cement ('000 metric tons) 325.

Foreign Trade. Imports. (1948) Rs.842 million; (1949, six months) Rs.744 million. Exports: (1948) Rs 867 million; (1949, six months) Rs.579 million.

Transport and Communications. Licensed motor vehicles (Dec 1948): cars 14,130, commercial vehicles 8,276. Shipping (Dec 1948) number of merchant vessels 19, total gross tonnage 87,703

Finance and Banking. (Million Rs) Budget: (1948-49 est) balanced at 950, (1949-50 est) balanced at 1,110, (1950-51 est.) balanced at 1,156. Note circulation (old notes of the Reserve Bank of India over-stamped "Pakistan" and new notes issued by the State Bank of Pakistan from Oct 1, 1948). (Aug 1948) 855, (Aug 1949) 1,644 Gold reserve (Aug. 1949, in brackets, Aug 1948) 13 3 (5 1) million U S dollars Bank deposits (Aug 1949, in brackets, Jan 1949) 2,568 (2,682). Monetary unit *rupee* with an exchange rate of Rs 9·29 (13 33 before Sept. 18, 1949) to the pound; Rs.1=2*s.* 2*d* (1*s.* 6*d* before the devaluation of the £)

PALÆONTOLOGY. In 1948 attention was drawn to the remarkable work that had been done on the nature of graptolites by Roman Kozłowski. This work had then only been outlined but the full details were published in 1949. Otherwise the work of 1949 was a consolidation of knowledge from many parts of the world. The shells and other structures of very small animals and plants, such as the Foraminifera and diatoms and the spicules of sponges, were the subjects of continued study. In the new world Orville Bandy monographed the Eocene and Oligocene Foraminifera of Alabama and in the old world André Pastiels wrote an impressive study of the radiolarians, diatoms and sponges of the Belgian Eocene. Knowledge of the Polyzoa was increased by Michel Vigneaux who made extensive studies of the Bryozoa of the Aquitaine basin, and revised the classification of the group. This work was expected to affect and interest workers far beyond the confines of France. On the opposite side of the world Frederico Lange monographed the polychæte annelids of Devonian age in Brazil in one of the fine publications of the Palæontological institute of Ithaca, New York.

The crinoids, or sea-lilies, continued to be studied by Harrell Strimple in the United States. Strimple worked on Carboniferous forms but an Australian colleague, Curt Teichert, devoted himself to the later, Permian, crinoid *Calceolispongia*.

Other invertebrate studies included the splendid work by Maxime Glibert on the gastropods of the lower Miocene of the Loire; on the Silurian and later Trilobites of Britain in the final papers of F. R. Cowper Reed, and, in the tangled pathways of Ammonite nomenclature, by L. F. Spath.

In vertebrate palæontology, T. S. Westoll wrote an important paper on the evolution of the Dipnoi, stressing characters which could be taken to show advance and thus to give a clue to the rates of evolution. In Germany, the veteran student of fossil reptiles, Friedrich von Huene, described new remains of ichthyosaurs and plesiosaurs and discussed in detail the probable development of the terrestrial type of limb into the swimming paddle of the plesiosaurs and placodonts. He confined himself to the study of the forelimb and shoulder girdle which were of importance in the classification of the plesiosaurs. The same author also published a review of the lower Tetrapoda which summarized his views on fossil Amphibia and Reptilia. Each order and sub-order was diagnosed. This paper was published in a volume to commemorate the work of Robert Broom, whose studies on fossil reptiles and, more recently, on fossil man, were world famous. During 1949 Dr. Broom lectured in America and Great Britain on his discoveries of *Paranthropus* and *Plesianthropus*. Information on these and other finds and a summary of present knowledge, in a popular form, was given by W. E. le Gros Clark in his *History of the Primates*.

In palæobotany, Tom Harris continued his studies in the Jurassic flora of Yorkshire. Francis Stockmans wrote on the *Végétaux du devonien supérieur de la Belgique*, a large work contrasting the Belgian species with those of other parts of the world and having an excellent bibliography.

In the field of evolutionary philosophy, two Americans made important contributions. A. S. Romer dealt with time series and trends in animal evolution and covered a wide field of invertebrate and vertebrate examples. He dealt also with extinction, regarding this primarily as an environmental effect, in many cases the scarcity of food, animals and plants being responsible for wide results. E. H. Colbert dealt with progressive adaptations as seen in the fossil record, confining himself to the fossil reptiles on which he is a leading authority. He abandoned this particular field, however, in an important essay on the palæontological principles significant in human evolution. Here he dealt with the theories of natural selection, with parallelism, irreversibility of evolution, orthogenesis and extinction. Professor Colbert lately made some important discoveries in the field but in 1949 his investigations were of an exploratory, rather than of a collecting nature.

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PALAU (PELEW) ISLAND: *see* TRUST TERRITORIES.

PALESTINE. The former British-administered mandated territory of 10,159 sq. mi. had been partitioned during 1948 and 1949 between the new state of Israel, which held four-fifths of its area, and the kingdom of Jordan, which occupied the greater part of the remainder. In the southwest a small strip of territory around Gaza (about 100 sq. mi.) was in Egyptian hands and in the northeast Syrian forces occupied some small frontier areas. No serious fighting took place after the conclusion of the final Israeli campaign in the Negev in Jan. 1949. (*See* ISRAEL.)

The population of the area of Palestine which remained in Arab hands could not readily be established because of the influx of refugees from Israeli territory That of the Gaza district was estimated at over 200,000, while the much larger mountain areas of Samaria and eastern Judaea, which was occupied by Arab legion forces from Jordan, was probably in excess of 600,000. The total number of Palestinian Arab refugees made destitute by the Arab-Israel war was computed by the U.N. Economic Survey Mission for the Middle East at 652,000. During 1949 most of them were in receipt of food and medical assistance from U.N. agencies or voluntary relief organizations.

The Old City of Jerusalem, Nablus and Hebron were the main Jordan-held centres of Arab Palestine, administered by governors appointed by King Abdullah of Jordan, who had strengthened his Amman government by the inclusion of some Palestinian Arab leaders. But there was no formal act of annexation or incorporation of the area into Jordan.

The United Nations still regarded Palestine as one area for purposes of conciliation and economic development and maintained a staff with permanent headquarters at the government house in Jerusalem, in an enclave between Jordan- and Israel-held territory. By a resolution of the general assembly of Dec. 1949, the U.N. laid claim to the administration of Jerusalem (*q.v.*) and its environs.

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PANAMA. A republic of Central America adjoining South America. It is bisected by the canal zone, which is leased to the United States. Area: 28,575 sq. mi. Pop. (mid-1949 est.): 763,800. Both area and population are exclusive of the canal zone. The racial composition includes Europeans (11%), native Indians (9%), Negroes (14%), *mestizos* or mixed (65%), the rest being Asiatics. Language: Spanish. Religion: Roman Catholic 93%, Protestant 6%. Chief towns (1949 est.): Panama City, on the Pacific coast (cap., 146,117); Colón, on the Atlantic coast (54,334). Presidents in 1949: Domingo Díaz Arosemena, Daniel Chanis, Roberto F. Chiari and Arnulfo Arias Madrid.

History. The year 1949 was featured by a rapid succession of presidents. The administration weathered one crisis when an alleged plot against the government was discovered in April and thwarted by a suspension of constitutional guarantees and the arrest of several political figures. Among those detained were the brothers Harmodio and Arnulfo Arias, both former presidents.

A heart ailment caused President Díaz Arosemena to retire in July, and he died on Aug. 23. He was succeeded on July 28 by the first vice-president, Daniel Chanis, Jr. The new president lifted the state of siege, released those arrested in connection with the plot and undertook to break the meat-packing and bus-transportation monopolies, allegedly controlled by national police personnel. The latter policy provoked a clash between Chanis and the chief of police, Colonel José Remón, and on Nov. 20 Colonel Remón forced Chanis to resign in favour of the second vice-president, Roberto F. Chiari. Chanis, however, made a dramatic appearance before the National Assembly and withdrew his resignation, explaining it had been signed under coercion. His reinstatement was upheld by the Supreme Court on Nov. 24 but he was ousted the same day by Colonel Remón and replaced by Arnulfo Arias Chanis fled; Chiari retired; and Arias was sworn in as president on Nov. 25.

Arias referred the legality of his position to the national election jury. This body had denied him a majority in the presidential election of 1948 by invalidating a large number of his votes and proclaiming Díaz Arosemena elected. Now it reversed its decision and declared that Arias was legally elected and therefore the constitutional president. A general strike in protest of the coup ended Nov. 28 and the National Assembly accepted Arias as president on Nov. 29.

The threat of a world-wide boycott of shipping under Panama registry lingered throughout the year as the International Labour organization investigated working conditions on the country's flagships.

Education. Schools (1948-49). primary 922, teachers 3,175, pupils 101,249, secondary 15, teachers 316, pupils 7,155, professional 52, teachers 497, pupils 9,149; National university, professors 76, students 1,343

Agriculture. Main crops (1948; '000 lb) rice 166,065; corn 102,912, beans 12,718; coffee 8,283, potatoes 4,137.

Foreign Trade. Exports during 1948 were estimated at $10,477,272 and imports at $63,775,726 The chief exports were. bananas, cacao beans, coconuts and abacá fibre

Communications. Railways (1949) 223·4 mi Roads (1948)· 1,102 mi paved and 450·9 mi. gravel, motor vehicles registered 25,173 Merchant marine (end 1948): 654 ships with a total tonnage of 2,965,428.

Finance. The monetary unit is the *balboa*, maintained at par with the U.S. dollar. Budget (1949 est.) expenditure $33·2 million. Public debt (Dec. 31, 1948): $25,968,939 (including $15,496,898 external). Money in circulation (June 30, 1949): $1,510,000 in specie and $1,253,000 in banknotes. (M. L. M.)

PANAMA CANAL ZONE. A United States military reservation embracing a ten-mile strip across the Isthmus of Panama, leased for the protection and administration of the Panama canal. Area: 553·1 sq mi. including 190·9 sq. mi. of fresh water. Population, exclusive of military personnel (end of 1948 est): 47,077, including 22,402 U.S. citizens. Administrative centre: Balboa Heights (pop., 1946: 12,623). Governor, Brigadier General Francis K. Newcomber

Discussions of canal modernizations were continued during 1949 without decision, and the study of proposed toll increases was postponed until 1950. On Sept. 21, 1949, commercial air operations were transferred from Albrook field to Panama's new national airport. A committee representing labour organizations, investigating conditions in canal zone employment, reported in February that racial discrimination existed in housing, schools, hospitals and wage rates. In September employment by the canal and Panama Railroad company was reportedly the lowest since 1940.

Education. In 1948 there were 14 schools with 4,219 pupils and a junior college for whites, 14 schools with 2,973 and a normal school for coloured pupils

Finance. Total canal revenues (1947-48) $20,298,260; net expenses, $19,235,067, net capital investment, $516,332,328 In the same period, 4,678 ships passing through the canal carried cargoes totalling 24,117,788 tons and paid tolls amounting to $19,956,593 The canal traffic was up 3·7% during the first nine months of 1949 from the same period of 1948. (M. L. M.)

PAN-AMERICAN UNION: *see* ORGANIZATION OF AMERICAN STATES.

PAPAGOS, ALEXANDROS, Greek army officer (b. Athens, Dec. 9, 1886), son of General Leonidas Papagos and Marie *née* Averoff. After studying at the Greek War academy, Brussels Military academy and the Cavalry school at Ypres, Belgium, he was commissioned in 1906 in a Greek cavalry regiment. He served in the Balkan wars (1912-13), reaching the rank of major during World War I. As a lieutenant colonel he was chief of staff of a cavalry division during the Asia Minor campaign (1919-22). From 1927-32 he was major general in command of the Larissa cavalry division. He was appointed deputy chief of staff in 1932, inspector general of cavalry in 1934 and a year later was promoted to lieutenant general and appointed commander of the 3rd (Salonika) army corps. Papagos was for a few months minister of war in the Gheorghios Kondylis cabinet (1935) but after the return of King George II was appointed inspector general of the Greek army and in 1936 chief of the general staff. When Italy attacked Greece on Oct. 28, 1940, he was commander in chief of the Greek forces. He checked the Italian invasion, took the offensive and conquered the southern part of Italian-occupied Albania; but when German forces, coming from Bulgaria, also attacked Greece (April 6, 1941) neither his moral prestige nor his skilful strategy could hold out against superior mechanized force. He remained in Greece after the occupation of the country, was taken as a hostage by the Germans in 1943 and imprisoned in various concentration camps, including Oranienburg and Dachau. Liberated in May 1945 by the 5th U.S. army from a camp in the Tirol, Papagos returned to Greece, was recalled to active service, promoted full general in July 1947 and appointed commander in chief on Jan. 20, 1949. In the Grammos-Vitsi area, familiar to him from 1940-41, he destroyed the remaining Communist rebel strongholds in Greece. On Oct. 28 he was promoted field marshal, the first Greek professional soldier to hold this rank.

PAPER AND PULP INDUSTRY. The first postwar setback to the upward trend of the world pulp and paper industry was encountered during 1949. First intimation came with a sharp recession in the United States which, eventually felt in North America and Europe, was maintained until mid-year. This movement then gradually reversed and during later months the U.S. became substantial buyers in the Scandinavian market. Price declines and pulp and paper mill closures in many countries were features of the first half of the year but as 1949 closed Scandinavian prices hardened and tended to rise.

Meanwhile in Great Britain, the Commonwealth and European countries there was a fictitious appearance of overproduction. As consumption in many countries was below prewar owing to government restrictions, lack of purchasing power and other reasons, world pulp and paper trade had still to effect substantial extra production before the prewar level of *per capita* consumption could be reached.

In Great Britain manufacture of many paper qualities improved; nevertheless statistics disclosed that paper production was only 80% of 1939 although that of paperboard was well above prewar. Whereas the receipts of papermaking materials from abroad reached about 85% of 1939, exports of paper and boards were returned at approximately 110% and imports at about 40%.

Vast potential world paper consumption was still recognized and news of heavy capital investment in new mills was reported. Concurrently efforts continued to be made by many countries to render themselves independent of pulp and paper importation but it seemed probable that expanding consumption would, for many years, keep ahead of this desire. Thus new material sources were constantly being looked for and in this respect undoubtedly straw would become increasingly important as time progressed because existing papermaking materials, particularly wood pulp, would not be capable of meeting the constantly expanding demand for paper.

In India, where production remained at approximately 100,000 tons for a population of nearly 400 million the first newsprint mill was being erected and other projects were in view. Canada, which supplied 60% of the world's newsprint, continued to expand production and new mills were in course of erection. New Zealand proposed to build a state-owned pulp and paper mill at Murupara; Australia was also building rapidly; and the successful use of a new raw material, Canna lily, promised to supply, among other articles, pulp for papermaking.

In Europe, Sweden produced less than prewar and appeared to have reached the limit of pulp production, as cutting for many years was too high for re-growth of forests. To overcome present shortage efforts were being made to increase yield and make better use of present supplies. Latest published figures from France indicated steady improvement in production of both pulp and paper. In the British zone of Germany 1948 production was nearly double that of the previous year and 1949 produced further progress. Similar reports were received from other European countries.

The Food and Agriculture organization predicted that there would be an under-production of pulp by 1955 of one million tons. It was estimated that the world demand in that year would be 37·2 million tons and production 36·3 million tons. (V. S. S.)

United States. The estimated production of paper and paperboard in the United States for 1949 was approximately 20·1 million tons, or about 10% less than in 1948. At the end of 1949 the industry was running at more than 99% of capacity, with both production and prices stable.

Canada. Canadian production of pulpwood in the 1948-49 season was estimated at about 9·4 million cords. Production of wood pulp continued at the record established in 1947. No new mills were built in 1948 or 1949, but modernization of newsprint mills resulted in an increase of 150,000 tons in 1948. The pulp and paper industry held first place in the dominion in regard to gross value of products.

PAPUA-NEW GUINEA. Under the Papua-New Guinea Provisional act 1949 the territory of Papua and the trust territory of (former German) New Guinea are united into a single area administered by the Commonwealth of Australia. Areas: Papua, 90,540 sq. mi.; New Guinea proper, 69,700 sq. mi.; New Britain, New Ireland, Admiralty islands and certain of the Solomon islands (included in the trust territory), 23,300 sq. mi. Population (1941 est.): Papua, Native about 300,000, white 3,070; New Guinea (including the islands), Native 684,300, white 4,100. Capital of joint administration: Port Moresby (pop., 1937 est., 3,000). Administrator, Colonel J. K. Murray.

History. In Jan. 1949, Cyril Chambers, acting minister of external affairs, visited Papua and New Guinea and on his return stated that with proper development the territories could supply Australia and other markets with cocoa, tea, coffee, rice and jute. A bill to ensure that New Guinea retained its separate identity as a trust territory and did not become merged with Papua was passed during the year by the federal parliament at Canberra.

In October a severe earth tremor shook the Rabaul area on the island of New Britain. More than 20 landslides were caused on the road from Rabaul to Kokopo. Already in 1937 severe earthquakes at Rabaul had caused the capital to be moved from Rabaul to Port Moresby. W. J. McKell, governor general of Australia, visited Port Moresby at the end of July and Rabaul at the beginning of August.

At the third session of the South Pacific commission (*q.v.*) at Noumea, New Caledonia, in May, preliminary consideration was given to arrangements for the first South Pacific conference representing the Native peoples of its Pacific island groups and the Kingdom of Tonga. The conference, at which delegates would be present from Papua and New Guinea, was planned to be held in April 1950 at Suva, Fiji.

On Oct. 11, 1949, the Australian government set up a cabinet sub-committee of five cabinet ministers and also an inter-departmental committee. These committees were set up to prepare schemes and report upon measures for the co-ordination of development of Papua and New Guinea.

When at the end of the year the new Indonesian government claimed the annexation of the Dutch western half of New Guinea (152,089 sq. mi.), Australian public opinion considered that this claim was not substantiated.

Budget. Estimated expenditure by Australia (1949-50): £3,795,000.

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PARAGUAY. A land-locked republic in south-central South America, bounded on the N. and in the E. by Brazil, on the S. by Argentina, and on the W. by Bolivia. Area: 157,047 sq. mi., of which 95,338 sq. mi. constitute the sparsely populated Chaco, while the 61,709 lying east of the Paraguay river contain 95% of the population. Pop. (mid-1948 est.): 1,270,000. The people are a homogeneous mixture of Guarani Indian and Spanish, with a small proportion of Portuguese and Italian stocks. Spanish is the official language but Guarani dialects are used by the majority of the population. Chief towns (pop., 1948 est.): Asunción (cap., 130,067); Villarica (31,081); Concepción (16,487). The official religion is Roman Catholic, and the archbishop is president of the Council of State. Presidents in 1949, Juan Natalicio González, (from Jan. 31) General Raimundo



The funeral parade of General Henri Giraud in Paris, March 17, 1949. A few days before his death at Dijon on March 11 he was decorated with the Médaille Militaire.

Rolón, (from Feb. 26) Felipe Molas López and (from Sept. 11) Federico Chaves.

History. On Jan. 30, 1949, an army faction headed by General Raimundo Rolón, with leanings toward Franquismo (Liberal Socialism), forced the resignation of President González, of the " Guión " (battle-standard) branch of the Colorado party. As provisional president, General Rolón proclaimed that political exiles of all opinions might freely return to Paraguay and participate in the new presidential elections which he set for April. Faced with this situation " Guión " and " Democratico " factions of the Colorados pooled their influence with the various army officers. They thus succeeded in taking over the government from General Rolón on Feb. 26, during the funeral ceremonies of the archbishop, and installed as provisional president Felipe Molas López, of the " Guión " faction. Molas was made the sole candidate in the April elections, as the Liberal and the Franquista (Febrerista) exiles did not return. He assumed office formally on April 17, with ostensible support from both Colorado factions; but during the summer the ascendancy of the " Democraticos " became sufficiently pronounced to induce the Colorado governing board to direct Molas to resign. On Sept. 11 Federico Chaves was made president, ruling the country on behalf of the governing board (which also dominated the parliament). On Nov. 10 Chaves, a veteran Colorado leader who had borne the brunt of his party's labours during its long years in opposition, issued a decree calling for another election in July 1950; but no indication was given as to whether the Liberals and Febreristas would be involved. (W. Fr.)

Education. Schools (1947): elementary, state 1,293, pupils 176,465, teachers 4,157; elementary, private 19, pupils 8,148, teachers 202; secondary 14, pupils 2,054; technical 129. National university (1940): students 890, professors and lecturers 115.

Agriculture. Main crops ('000 metric tons): oranges and tangerines (1947) 206; maize (1945) 168; yam (1948) 110; cotton (1948) 22; rice (1948-49) 30; tobacco (1947) 11; sugar, raw value (1947) 16; vegetable oils (1948) 7. Production of hardwood timber important: exports in 1948 amounted to £12 million. Livestock ('000 head, Dec. 1946): cattle 3,004; horses 180; sheep 110; goats 7; pigs 65.

Industry. Quebracho (tannin) was extracted from timber logs in the Chaco region, providing (1948) 48,000 metric tons which was about a quarter of total world production. Petitgrain oil was distilled from the leaves of a bitter orange tree and used in the manufacture of perfume; Paraguay was the world's leading producer: (1946) 407 metric tons. Mineral resources are extremely meagre.

Foreign Trade. (1948) Imports 75 million guaranis; exports 87 million guaranis. Principal imports: foodstuffs, textiles and textile manufactures, vehicles and accessories and metals and metal manufactures. Principal exports: timber, cattle, hides, cotton, quebracho extract and canned meat. Main sources of supply (1948): Argentina 34%, United States 27%, United Kingdom 14%, Brazil 6%. Main destinations of exports (1947): Argentina 33%, Uruguay 8%, United Kingdom 6%, Netherlands 1%.

Transport and Communications. Improved roads (1949): 475 mi. Licensed motor vehicles (Dec. 1948): cars 1,290, commercial vehicles 1,870. Railways (1947): 749 mi. Water transport on the Paraná and Paraguay rivers handled 440,000 metric tons in 1948, while rail transport handled 240,000 tons. Telephones (1949): subscribers 3,977. Wireless receiving sets (1948): 25,000.

Finance and Banking. (Million guaranis) Budget (1949 est.): revenue 54·8, expenditure 70·8. Currency circulation (June 1949; in brackets June 1948): 67 (45). Bank deposits (June 1949; in brackets June 1948): 63 (31). Monetary unit: *guarani* with an exchange rate (Dec. 1949; in brackets Dec. 1948) of 8·65 (12·48) guaranis to the pound.

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PARIS. Capital and largest city of France, pop.: (1936 census) 2,829,746, (1946 census) 2,725,374. President of the municipal council: Pierre de Gaulle.

History. In general, throughout 1949 there was a gradual return to normal peacetime conditions. There were no important or violent strikes. Food, though usually expensive, was good and plentiful; and rationing was abolished, although many price controls were retained. Paris continued to be the scene of various important international conferences, some of the most noteworthy being those of the Organization for European Economic Co-operation, which held meetings in February, April and September, and the Council of the Food and Agriculture organization which met in June. The World Congress of the Partisans of Peace was held from April 20-25, under Communist auspices.

A certain amount of dissatisfaction with prevailing conditions manifested itself in a series of strikes, which were, however, of short duration. There was unrest in the civil service, in some transport services and in the nationalized Renault works. On May 7 the government issued requisition orders for staffs of Air France who had struck because of inadequate pensions and were demanding " charters " for

flying staffs. In late July a strike of *midinettes* or dressmakers threatened the Paris fashion shows. On Nov. 25, the *métro* and buses ceased running as part of the 24 hr. general strike occasioned by the government's refusal to extend the special wage bonus, granted earlier in the year, to all workers instead of merely to those in the lowest-paid categories.

A welcome event during 1949 was the re-opening of three museums in the Palais de Chaillot which had been occupied in 1948 by the United Nations general assembly. These were the Musée de l'Homme, Musée de la Marine and Musée des Monuments Français. The Musée de Cluny was also re-opened.

In October, the new " territorial brigades " of police were introduced in an effort to counter increasing brigandage in Paris and its suburbs.

In July the London Symphony Orchestra, paying its second visit to Paris since 1905, was warmly received. Works by William Walton and Vaughan Williams were included and the orchestra was conducted by Gaston Poulet.

The city's budget for 1949 was balanced at Fr.42,673 million.

PARLIAMENT, HOUSES OF. For the first time since 1939 both houses sat on a Saturday when on July 30 they assembled to conclude outstanding business before the summer adjournment The ten-week recess was interrupted on Sept. 28 when both houses reassembled to debate the government's policy of devaluing the pound sterling The House of Commons sat for three days, and the Lords for two days. The session, which had been opened by the King on Oct. 26, 1948, continued until Dec. 16, 1949. This long session was held in order to pass the Parliament bill and the Iron and Steel bill before parliament was dissolved.

The Parliament bill was passed by the House of Commons on Nov. 14, but on Nov. 29 it was rejected for the third time by the House of Lords. Under the procedure of the Parliament act 1911 the bill could then become law despite its rejection by the Lords and it received the royal assent on Dec. 17. In November the government introduced a series of amendments to the Iron and Steel bill whereby the industry could not be taken over by the state until after the 1950 general election, thus meeting the opposition of the Conservative peers. These amendments were accepted by both houses and the bill became law on Nov. 24

The latest constitutional date for the dissolution of parliament was Aug. 1950, but in the autumn of 1949 it was widely believed that the government favoured an immediate general election, and on Oct. 13 the following statement was issued from No. 10 Downing street: " Having regard to the disturbing effects on trade and industry and on the national effort by the continuance of speculations as to an early general election, the prime minister thinks it right to inform the country of his decision not to advise His Majesty to dissolve parliament this year."

The strength of the Labour party in the House of Commons was reduced by three during the year. On May 18, K. Zilliacus (Gateshead) and L. J. Solley (Thurrock, Essex) were expelled from the Labour party, and L. Hutchinson (Manchester, Rusholme) was expelled on July 27. With D. N. Pritt (Hammersmith, north) and J. Platts-Mills (Finsbury) they formed an independent labour group under the chairmanship of D. N. Pritt. Alfred Edwards (Middlesbrough) and Ivor Thomas (Keighley, Yorkshire), both of whom had been elected as Labour members but later sat as independents, received the Conservative whip.

On Jan. 27, for the first time since 1938, a ballot was held for private members' bills. 353 members entered for the ballot: 25 names were drawn and the bills formally introduced on Jan. 28. Among those which were rejected at the second or third readings in the House of Commons were the Protection of Animals (Hunting and Coursing Prohibition), Spelling Reform, Analgesia in Childbirth, Hairdressers (Registration). The first private members' bill to receive the royal assent was the Slaughter of Animals (Scotland), which received the assent on July 30.

Six by-elections were held in 1949. In the 52 by-elections since the 1945 general election the results were:

Party	*Gained*	*Held*	*Lost*
Labour	-	35	-
Conservative	3	11	-
Independent Labour Party	-	1	1
Ulster Unionists	1	1	-
Independent Ulster Unionist	-	-	1
Independent	-	-	2

The results of the by-elections in 1949 were:

Division	*Elected candidate*	*Party*	*Majority*
Batley and Morley, Yorkshire	A D D Broughton	Labour	7,686
Hammersmith, south	W T Williams	Labour	1,613
St Pancras, north	K Robinson	Labour	5,067
Sowerby, Yorkshire	A L N D. Houghton	Labour	2,152
Leeds, west	T P Pannell	Labour	4,109
Bradford, south	G Craddock	Labour	4,022

In December J. J. Lawson (Labour, Chester-le-Street) was appointed vice-chairman of the National Parks commission and this being an office of profit he was appointed steward of the Chiltern Hundreds.

The clerk of the parliaments from 1934, Sir Henry Badeley, retired on May 30 and was succeeded by Robert Overbury, who had been clerk assistant of the parliaments from 1937. In the birthday honours list Sir Henry was created a baron; and he took the title of Lord Badeley, of Badley, Suffolk. Admiral Sir Geoffrey Blake, Gentleman Usher of the Black Rod from 1945, resigned in January owing to continuing deafness from gunblast; the King appointed Lieutenant General Sir Brian Horrocks to succeed him.

Other new peers created in 1949 were: Lord Adams (J. J. Adams), Lord Dugan of Victoria (Sir Winston Dugan), Lord Boyd-Orr (Sir John Boyd Orr), Lord Macdonald of Gwaenysgor (Sir Gordon Macdonald) and Lord Archibald (George Archibald)

The government chief whip in the House of Lords, Lord Ammon, resigned in July after criticizing the government for their handling of the London dock strike. Lord Shepherd was appointed to succeed him. Lord Milverton resigned from the Labour party in opposition to the Iron and Steel bill and later joined the Liberal party.

Only one matter was referred to the Committee of Privileges. On July 26, the House of Commons referred a complaint by R. Blackburn (Labour, King's Norton) that he had been misrepresented in a report in the *Daily Worker*. The committee reported on Oct. 20 that the report did not call for any action by the house

In January a delegation from the House of Commons led by Major James Milner, deputy speaker, and accompanied by Major E. A. Fellowes, clerk assistant, visited Ceylon, where on Jan. 11, they presented to the House of Representatives a speaker's chair and mace. These gifts were made for the purpose of marking Ceylon's attainment of fully responsible self-government and full membership of the Commonwealth which took place on Feb 4, 1948.

Commonwealth. Changes in the sizes of the houses in three of the dominions came into operation during the year. In Canada, the confederation with Newfoundland added seven members to the House of Commons and six to the Senate. In Australia the House of Commons was enlarged from 75 seats to 122 and the Senate from 36 to 60. In South Africa the South West Africa Affairs Amendment act received the assent of May 3. Under this act four seats would be added to the House of Assembly for representatives of South West Africa and two in the Senate.

Osmania University Library, HYDERABAD (DECCAN)

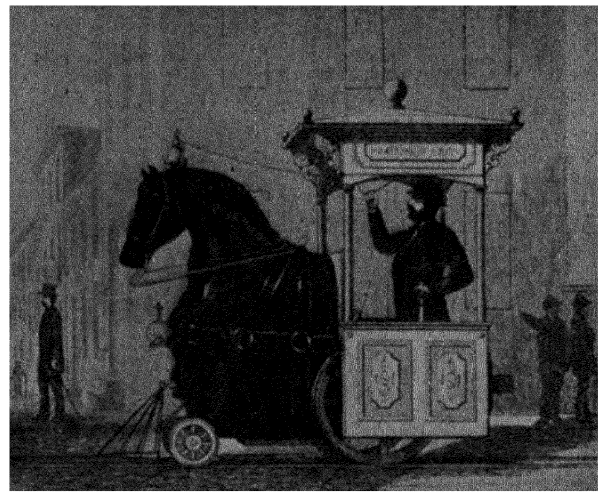
In December the British Columbia Legislative Assembly elected Mrs. Nancy Holmes as speaker. She became the first woman speaker in the commonwealth. (X.)

PATEL, SARDAR VALLABHBHAI, Indian politician (b. Karamsad, near Nadiad, Oct. 31, 1875), was educated at Nadiad high school. He became a barrister and was called to the bar in London and also practised at Ahmedabad. He soon became associated with Mahatma Gandhi and was imprisoned many times for civil disobedience activities. He was a member of the working committee of the Indian National congress, and on Sept. 1, 1946, took office as minister for the home department, information and broadcasting in the interim government. After the granting of independence on Aug. 15, 1947, Sardar Patel became deputy prime minister and minister for states, home, information and broadcasting. As minister for states he was responsible for the integration and democratization of the Indian states. The process of integration was completed on Oct. 15, 1949, and Sardar Patel sent messages to the peoples of Benares Manipur and Tripura, the states concerned in the final transfer. After the Commonwealth conference in London in April had made known that it had been found possible for India to be an independent republic within the Commonwealth, Sardar Patel described its decisions as "bold and momentous." In May, in the debate in the constituent assembly on the proposal to abolish seats in the legislatures for minority communities, he said "we are to-day laying the foundation stone of a true secular democratic state, where everybody has equal chance and equal opportunity." On June 4 he inaugurated the armed forces academy at Dehra Dun. The Kasturba Gandhi trust, in memory of the wife of Mahatma Gandhi, re-elected Sardar Patel chairman for a further period of three years in June 1949. In February Pandit Nehru unveiled a bust of Sardar Patel in Godhra (Gujarat). Pandit Nehru also laid the foundation stone of Vallabh Vidya-Nagar, a university town to be known after Sardar Patel.

PATENTS. The year 1949 saw the passage of an important Patents and Designs act in the United Kingdom but was otherwise relatively uneventful in the domain of patents. That act made numerous changes in the law in substantial agreement with the recommendations of a departmental committee. Subsequently, a bill to consolidate the whole of the existing law relating to patents and a similar bill in respect of the law relating to industrial designs were introduced into parliament; they were expected to become law and to come into operation on Jan. 1, 1950.

The agreement between Belgium, France, Luxembourg and the Netherlands for the establishment of an International Patents Search office at The Hague was duly ratified and the first steps towards its establishment were taken. The main function of this office would be to issue to the governments of the contracting countries qualified advisory opinions on the novelty of inventions for which applications for patents were filed with the national patent offices. The intention was that the new office should commence to operate at the beginning of 1950. In the meantime use was made of the staff and documentation of the Netherlands Patent office, but the International office hoped in due course to recruit and train its own staff and to establish its own collection of search material.

A project for a European Patents Search office was submitted to the consultative assembly of the Council of Europe and was referred to the council of ministers for examination. If an efficient and economical scheme could be evolved notwithstanding the immense administrative and practical difficulties, there would be repercussions on the position of



A steam tram disguised as a horse vehicle which appeared in Boston, Massachusetts, during the 19th century: one of the many inventions for which patents were applied, described in "Patent Applied For" (London, 1949).

The Hague Search office and a solution of this and other connected problems would have to be found.

Preliminary preparations for the next conference of the International Union for the Protection of Industrial Property which was expected to be held in Lisbon in 1952 or 1953 for the purpose of revising the text of the convention of the union signed in London in 1934, were begun. The Association of International Chambers of Commerce held a meeting at Quebec in June and, amongst other things, adopted a number of resolutions relative to the amendment of the convention of the union. Similarly the International Association for the Protection of Industrial Property began its arrangements for a meeting to be held in Paris in 1950 to consider possible amendments in the convention. The resolutions adopted by these associations would have an important influence on the programme for the Lisbon conference which would eventually be drawn up by the international bureau of the union and the Portuguese government.

A fully functioning Patent office was established at Munich as from Oct. 1 for the combined American, British and French zones of Germany. A branch office was opened at Berlin. In consequence the filing offices at Darmstadt and Berlin were closed. The international relations of the new office had not yet been established, but it was anticipated that the Industrial Property union would recognize the new federal republic as a member of the union. (J. L. Be.)

United States. The United States Patent office granted 39,809 patents during the calendar year 1949, which included 4,451 for designs, 93 for plants and 118 re-issues. This was an increase of 11,713 over the 28,096 total for 1948.

Applications for patents filed in the Patent office for the calendar year 1948 totalled 75,952; for the first 11 months of 1949, the number filed was 68,133. In Dec. 1949, approximately 240,000 applications were pending in the Patent office, of which about 141,000 were awaiting action by the office and 96,000 under rejection were awaiting response by applicants, the remainder being in interference or on appeal. Trade-marks registered (15,972) and renewed (3,797) during 1949 totalled 19,769. This compared with 16,530 registrations and renewals in 1948. In addition, 12,983 registrations were republished. Applications for registration, republication and renewal for the first 11 months of 1949 totalled 23,419, compared with 37,159 applications for the entire preceding year. Approximately 41,000 trade-mark applications were pending in the office in Dec. 1949.

At the end of 1949, the Patent office had granted more than 2,492,000 patents, of which about 600,000 were unexpired. More than 40,000 unexpired patents were listed on the register of patents available for licence or sale—the new listings being published in the *Official Gazette*.

The comprehensive revision of the patent rules of practice undertaken in 1946 was concluded and published as *Rules of Practice of the United States Patent Office in Patent Cases*, effective March 1, 1949. In Nov. 1949 the *Manual of Patent Examining Procedure* was published. Also published in 1949 was the *Guide for Patent Draftsmen*. The project undertaken in 1948 to perfect the patent copy reference collection maintained for public use in the research room continued during the year. (*See* also INVENTORS, AWARDS TO.) (J. A. ML.)

PAUKER, ANA, Rumanian politician (b. Codaeşti, Moldavia, Dec. 31, 1893), the daughter of Zvi Rabinsohn, a *shohet* or Jewish slaughterer, was appointed on Nov. 7, 1947, minister of foreign affairs. (For her early career see *Britannica Book of the Year 1949*.)

On April 15, 1949, she was appointed one of the three Communist deputy prime ministers. On July 10 she was present at Sofia at the burial of G. Dimitrov. With G. Gheorghiu-Dej, one of the deputy prime ministers, she headed the Rumanian delegation to Moscow on the occasion of Joseph Stalin's 70th birthday on Dec. 21. On Dec. 30, second anniversary of the proclamation of the Rumanian people's republic, the Moscow *Pravda* published an article by her commenting on the event,

PAUL I, King of the Hellenes (b. Athens, Dec. 14, 1901), succeeded to the throne on April 1, 1947. (For his early life see *Britannica Book of the Year 1949*).

On Jan. 16, 1949, urging the formation of a strong national government, he stated that if such a government were not formed within 24 hours he would find another solution for which he hoped the parliament would grant full support. However the political party leaders agreed to form a coalition government and requested the King to nominate its prime minister. The King complied by appointing T. Sofoulis, the Liberal leader. During the year he visited various battle areas where fighting was going on against the Communist rebels, and also during August and September the liberated Vitsi and Grammos areas. On Sept. 14, speaking in Athens, he appealed to the whole of the Greek nation to contribute to the work of relieving the suffering of 700,000 refugees. On Oct. 9 the King and Queen Frederika left Athens on a tour of inspection of the Cyclades and Aegean islands. On Oct. 26 they were in Salonika for the celebration of the anniversary of its liberation by the Greek army in 1912. On Nov. 15 the King and Queen travelled to Tripolis (Peloponnesus) for the opening of a reconstructed road.

PEARSON, LESTER BOWLES, Canadian diplomat and statesman (b. Toronto, April 23, 1897), was educated at the University of Toronto and St. John's college, Oxford. He served in World War I in Salonika and in 1917 transferred to the Royal Flying Corps. From 1924 to 1928 he was assistant professor in history at the University of Toronto. In 1928 he joined the newly formed Department of External Affairs and was a first secretary in Ottawa until 1935 when he went in a similar capacity to the office of the Canadian high commissioner in London. He was in Ottawa in the Department of External Affairs, 1941-42, and from 1942 to 1946 was in Washington, first as minister and later when the status of the mission was raised to an embassy, as ambassador. He returned to Ottawa to become under secretary of state for external affairs and on Sept. 10, 1948, was sworn in as minister for external affairs in succession to Louis St. Laurent. Pearson was a Canadian delegate at many international conferences including the San Francisco conference, 1945, and subsequently at United Nations assemblies in Paris and New York. At the special assembly in April 1947 to discuss the future of Palestine he was chairman of the political committee and on Sept. 20, 1949, he was again elected chairman of the political committee for the fourth general assembly. In 1948 he was elected to the House of Commons for Algoma East, Ontario. He was re-elected on June 27, 1949. He represented Canada at the Commonwealth conference in London in April 1949. On April 4, 1949, he signed the North Atlantic treaty in Washington on behalf of Canada.

PEASANT MOVEMENT. In Europe in general and in eastern Europe in particular the Peasant, Populist or Agrarian parties always stood for truly democratic political systems and radical land reforms. "Land and freedom" was their slogan: low taxes and good prices for agricultural produce were their aims. These parties rejected Socialism because it meant nationalization of land; they stressed, however, the necessity for setting up co-operatives for specific purposes or embracing the whole life of a village community. After World War II the peasants' way of life was challenged by the Communists and, though by 1949 they still owned the land in the people's democracies, they were neither politically free nor could they hope for a satisfactory settlement of their economic claims.

In a speech at Budapest on March 5, 1949, published under the title "On the Character of our People's Democracies" in *Tarsadalmi Szemle*, (Budapest, March-April 1949), József Révai, a prominent Hungarian Communist, admitted that the Communist parties had misled the Baltic, Danubian and Balkan nations into believing that a people's democracy was merely a plebeian and popular form of bourgeois democracy and that the land reforms of 1944-45 were made in defence of small landowners. He recalled the insistence of both Lenin and Stalin on the fact that all power had to be in the hands of the proletariat and that it could not be shared with peasants or any other class of the population.

During 1949 the role of the Peasant parties in Soviet-dominated Europe was reduced to one of subservience. In Bulgaria, Ghcorghi Traikov, secretary general of the Bulgarian National Agrarian union (Blgarski Zemledelski Naroden Sayuz), was still deputy prime minister. In Hungary, István Dobi, chairman of the purged Smallholders' party (Kisgazda Párt), was a figurehead prime minister, but the minister of agriculture was Dr. Ferenc Erdei, a Marxist, leader of the small National Peasant party (Nemzeti Paraszt Párt). In Poland a fusion took place on Nov. 27-30 of the rump Polish Peasant party (Polskie Stronnictwo Ludowe)—formerly associated with Wincenty Witos and Stanisław Mikołajczyk—and the Communist-controlled Peasant party (Stronnictwo Ludowe). The chairman of the latter, Władysław Kowalski, became chairman of the executive committee of the new United Peasant party (Zjednoczone Stronnictwo Ludowe), and Józef Niećko, leader of the P.S.L., was elected chairman of the national council of the United party which accepted the Communist leadership in the state and the form of people's democracy as a transition towards a Socialist economy. In Rumania Dr. Petru Groza, leader of the Ploughmen's front (Frontul Plugarilor), continued to serve as prime minister under the supervision of his three Communist deputies. In the Soviet zone of Germany, Ernst Goldenbaum, a leader of the Democratic Peasant party (Demokratische Bauernpartei), formed in 1948, on Oct. 12 was appointed minister of agriculture.

Collectivization in the satellite people's democracies by the end of 1949 was still in its initial stages. Even Bulgaria, whose aim was to collectivize 60% of all arable land by 1953, had

TABLE—COLLECTIVIZATION OF AGRICULTURE IN EASTERN EUROPE

	Total arable land (in ac.)	Number of producers' co-operatives in 1949	% of total arable area	Number of tractors in 1949*	Planned number of tractors
Bulgaria	12,336,000	1,594	11·2	5,000	10,000 (1953)
Czechoslovakia	13,560,000	250	1·0	22,000	45,000 (1953)
Hungary	16,949,000	587	1·3	11,000	22,800 (1954)
Poland	41,196,000	170	0·9	14,000	76,500 (1955)
Rumania	24,070,000	55	0·1	11,000	29,000 (1955)
Yugoslavia	36,435,000	4,250	*c.* 20·0	4,000	8,000 (1952)

* Private and owned by the M T S (machine tractor stations)

only 1,594 labour agricultural co-operatives covering 11·2% of the arable land by Sept. 1949. In Hungary there were at the same time 587 producers' co-operatives covering 1·3% of all arable land; and in Poland there were 170. In Rumania the first 55 producers' co-operatives—called *gospodaria agricola colectiva*—were formed during August and September.

In non-Cominform Yugoslavia, Mijalko Todorović, minister of agriculture, announced in the national assembly, or Skupština, on May 27, 1949, that there were 4,250 peasant co-operatives, representing an average of one co-operative for every three villages. Yugoslavia's working co-operatives were divided into four types, varying from a "lower" type, where land was worked in common but owned individually, to a "highest" type, where land was both worked and held in common. The idea was understood to be that eventually all co-operatives should conform to the highest type.

During the year Communist leaders in the satellite countries warned their followers not to press collectivization. The Bulgarian Communist party on June 21 published a resolution complaining of excess of zeal among its members in forcing the pace on farmers. In Hungary Mátyás Rákosi stated in a speech on Aug. 17 that though most peasants were still "the slaves of private ownership," their attitude was changing and he hoped that by the end of the year 5%-6% of the arable land would be under collective ownership. In Rumania Vasile Luca, in an article published by the Cominform journal on Aug. 1, admitted that conditions permitting the mass liquidation of the *kulak* class (richer peasant proprietors) were not yet present. At the merger congress of the Polish Peasant parties it was stated that when conditions were ready and where the peasants had understood the matter producers' co-operatives would be set up. In all people's democracies "poor" and "medium" peasants were helped at the expense of the *kulaks*. Differential taxes were imposed on the latter, prices and credits were regulated to the same end and compulsory savings were required from the "rich" peasants who were not to be allowed to hold office in any political or economic organization.

That Communist leaders were cautious in applying collectivization was due to the fact that economic planning in the people's democracies was under the supervision of the Council of Mutual Economic Assistance, formed in Moscow in Jan. 1949. All satellite countries embarked on a policy of building up heavy industries as quickly as possible. This emphasis was bound to delay economic development and a rise in the standard of living. As the U.N. Economic Commission for Europe puts it in its *Economic Survey of Europe in 1948* (Geneva, May 1949), the alternative of concentrating on the light industries or on agriculture would require heavy imports of both agricultural and industrial machinery "on which these countries, partly for political or strategic reasons, do not wish to rely." In other words, the satellites, following the Soviet veto of 1947 on joining the Organization for European Economic Co-operation, were left to their own resources, the U.S.S.R. being unable to help them fulfil their economic plans. The percentages of capital expenditure for agriculture in Bulgarian, Czechoslovak, Hungarian, Rumanian and Polish plans varied from 8% to 13% of the total investments as opposed to 39-49% of capital investment in mining and manufactures and 17-24% in transport.

Lack of mechanical equipment was another reason for the slow rate of collectivization. During 1949 Polish producers' co-operatives acquired some 1,600 locally-built tractors. The arable area of Poland being over 41 million ac., the country would require for motorized cultivation a minimum of 55,000 tractors which would consume yearly 400,000 metric tons of petrol—seven times the existing national production. However, according to Stanisław Ignar, member of the executive committee of the United Peasant party, 60,000 tractors would be working in the Polish countryside by 1955. In Hungary there were in December 11,000 tractors out of which only 3,500 were owned by the state, but the country itself was believed to be producing about 3,000 tractors yearly. In Rumania, according to V Luca, there were 2,289 state-owned tractors by mid-1949; but by 1955 the Braşov factory would be producing about 5,000 tractors yearly.

It was clear, therefore, why Communist leaders in the people's democracies were advised by Moscow not to jeopardize industrialization by too rapid collectivization of agriculture: from the land must come the surplus for feeding increasing urban populations and for export to pay for such machinery and raw materials as they would be permitted to buy abroad.

The International Peasant union with headquarters in Washington (president, Stanisław Mikołajczyk; secretary general, Dr. G. M. Dimitrov), originally consisting of the representatives of the Bulgarian, Croat, Hungarian, Polish, Rumanian and Serbian Peasant parties in exile, increased its membership during the year by co-opting the leaders of the Czech Agrarians (Dr. Josef Černy), Estonian Smallholders (Johannes Sikkar), Lithuanian Populists (Dr. Kazys Grinius) and Slovak Agrarians (Dr. Fedor Hodža). One vice president, Grigore Niculescu-Buzeşti, of the Rumanian National Peasant party, died in New York in October at the age of 41.

(K. SM.)

PEMBA: *see* BRITISH EAST AFRICA.

PERFUMERY: *see* SOAP, PERFUMERY AND COSMETICS.

PERÓN, JUAN DOMINGO, Argentine army officer and politician (b. near Lobos, south of Buenos Aires, Oct. 11, 1895), was elected president on Feb. 24, 1946. (For his early career see *Britannica Book of the Year 1949*).

In 1948 the Peronistas won sufficient strength in the congressional elections to sponsor a constitutional convention initiating an amendment to permit the immediate re-election of the president. The new constitution, which became effective on March 16, 1949, also provided for direct instead of electoral-college election of the president. Though Perón continually insisted that he did not intend to run for re-election, his followers renominated him at their party convention in Buenos Aires in July 1949.

PERSIA.[1] An independent kingdom of western Asia, bounded on the east by Pakistan and Afghanistan, on the

[1] Persia had been known as Iran from March 1935, but on Oct 25, 1949, it was announced that the Tehran government reverted to the former name in foreign languages.

north by the U.S.S.R., on the west by Turkey and Iraq and on the south by the Persian gulf and Arabian sea. Area: *c.* 634,413 sq. mi. Pop. (no census ever taken, 1948 est.): between 16,500,000 and 17,500,000. Language: mainly Persian, but some Turki and Armenian in the north, Kurd in the west, Arabic in the south and Pushtu in the east. Religion: mainly Shiah Moslem but the Kurds (750,000) are Sunni; there are also *c.* 50,000 Gregorian Armenians and a few thousand Catholic Armenians, 40,000 Nestorians and 80,000 Jews. Chief towns (1948 est.): Tehran (cap., 850,000); Meshed (250,000); Tabriz (214,000); Isfahan (205,000); Abadan (150,000); Shiraz (129,000); Resht (122,000); Hamadan (104,000). Ruler, Shahanshah Mohammad Riza Shah Pahlavi (*q.v.*); prime minister, Mohammad Saed Maragheh (*q.v.*).

History. On Feb. 4, 1949, whilst the Shah was distributing prizes at the Tehran university, an attempt was made on his life by a member of the left-wing Tudeh party. The assailant, Fakhr Rai, fired several shots at close range, injuring the Shah in the lip and back. He was attacked by the crowd and died after reaching the hospital. Martial law was declared, many Tudeh members were arrested and the party was dissolved. The Shah's injuries did not prove serious and he recovered shortly after the attempt.

On Feb. 12 the Soviet government protested to Persia against statements in Majlis (parliament) that the Tudeh party was backed by the U.S.S.R. and that the Soviet government was interfering in the internal affairs of Persia. Replying to the Soviet note, the Persian government called attention to the Soviet radio propaganda directed against Persia; and objection was made to the assertion that Persia was under U.S. military domination and had become an American base. It reiterated the fact that U.S. officers in Persia were merely paid advisers.

In the first week of March the Majlis passed a new Press act whereby insults to the royal family and heads of foreign states with which there were friendly relations, blasphemy against Islam and instigation to revolt could be promptly punished.

The Imperial Bank of Iran, whose concession granted 60 years previously expired at the end of Jan. 1949, reached an agreement with the Persian government whereby the bank would in future operate under ordinary laws, depositing with the Bank Melli Iran (National bank), free of interest, all deposits in excess of two-and-a-quarter times the amount of capital employed in Persia by the bank and selling a further £1 million to the government as exchange. The bank's name was subsequently changed to the British Bank of Iran and the Middle East.

On May 11, revising the constitutional law of 1906, the Majlis defined the procedure for future constitutional amendments and gave the Shah the limited right to dissolve Majlis with the approval of the Senate (which, though provided for in the constitution, did not hitherto exist).

In June two middle eastern statesmen paid official visits to Persia. Liaquat Ali Khan, the prime minister of Pakistan, was the first; he was followed by Emir Abdul Illah, the regent of Iraq. These visits were rounded off by that of King Abdullah of Jordan who paid a state visit on July 28. The exchange of courtesies and views of these middle east rulers with the Shah and his government strengthened the bonds of friendship and collaboration existing between these Moslem countries.

After protracted negotiations between the Persian government and representatives of the Anglo-Iranian Oil company for an increase of royalties payable to Persia, agreement was reached and on July 19 the minister of finance presented to Majlis a bill embodying the agreement. The bill provided: (1) that from 1948 the royalty on oil be raised from 4*s.* to 6*s.* a ton and that the company pay £3,360,000 in respect of 1948; (2) that the excise on oil be raised from 9*d.* to 1*s.* a ton and that the company pay £600,000 in respect of 1948; (3) that the company should pay 20% of its profits from general reserve, calculated before deduction of British income-tax instead of after deduction of tax as hitherto, and pay £5 million in respect of 1948. The Majlis was dissolved at the end of June before a vote could be taken on the oil agreement.



King Abdullah of Jordan standing between Ibrahim Hakimi, former prime minister of Persia (left) and Mohammad Saed Maragheh, prime minister from Nov. 9, 1948, during the King's visit to Tehran, July 1949.

The 1947 monetary agreement with Great Britain dealing with the convertibility of Persian sterling credits into other currencies for imports obtainable in Britain was extended for another year.

During October and November elections for the 16th Majlis and the new Senate were held all over the country.

On Nov. 4 whilst the minister of court and former prime minister, Abdol Hossein Hajir (*see* OBITUARIES), was attending a ceremony at the mosque of Sepah-Salar, a fanatic, Hossein Emami, fired several shots at him at close range. Hajir died two days later. The assailant was tried by a military court and hanged.

On Nov. 16 the Shah flew to Washington on an official visit at the invitation of President Truman and addressed both houses of congress. On Dec. 30, a few hours before the Shah departed by air from New York after his American tour, President Truman announced that the United States was ready to offer certain military assistance to Persia and would support its requests for loans from the International Bank for Reconstruction and Development. (X.)

Education. (1938) Schools 8,381, pupils 457,236, teachers 13,078. There is one university at Tehran.

Agriculture and Fisheries. Main crops (in '000 metric tons): wheat (1948) 1,700; barley (1948) 600; cotton (1948) 22; rice (1948) 424; sugar (1948) 46; tea (1947) 7; tobacco (1948) 11; jute (1948) 14. Livestock (in '000 head): sheep (March 1948) 13,000; goats (1946-47) 6,800; cattle (March 1946) 2,500; horses (1946-47) 350. Wool production (in '000 metric tons, 1948-49) 11. Fisheries (production of the Société Mahie); approximate catch of sturgeon 5,000 tons, from which 30 tons of caviar are extracted.

Industry. Fuel and power (in '000 metric tons): coal (1948 est.) 150; crude oil, production of the Anglo-Iranian Oil company, (1948; 1949, six months, in brackets) 25,270 (13,384). Raw materials (in metric tons, estimated annual production): copper ore, 1,000; sulphur 600; red oxide 10,000; arsenic ore 500. Cement production (in '000 metric tons, 1946) 35. Textiles and rugs are produced on a small scale.

Foreign Trade. Imports: (1948-49) 5,440 million rials. Exports, including oil exports of the Anglo-Iranian Oil company: (1948-49) 18,990 million rials. Principal imports: sugar, cotton piece-goods, metals and metal products, and tea. Principal exports: oil, rugs, dried fruit and nuts, and medicinal plants and seeds. Main sources of supply in 1947-48 were United States 22%, United Kingdom 22% and India 11%. Main destinations of exports in 1947-48 were United Kingdom 61%, India 8% and United States 5%.

Transport and Communications. Roads (1949) 17,000 mi., of which 8,000 mi. are suitable for vehicles. Licensed motor vehicles (Dec. 1948): cars 9,800, commercial vehicles 11,600. Railways (1948): 1,750 mi.

Finance and Banking. Budget estimates (in million rials): (1948-49) revenue 7,755, expenditure 8,398; (1949-50) 7,705, expenditure 10,835. National debt (Dec. 1948) 5,400 million rials. Currency circulation (July, 1949; in brackets, July 1948) 6,120 (6,600) million rials. Gold reserve (July 1949; in brackets, July 1948) 140 (142) million U.S. dollars. Bank deposits (July 1949, in brackets, July 1948): 7,960 (6,640) million rials. Monetary unit: *rial* with an exchange rate (Dec. 1949; in brackets, Dec. 1948) of 90·20 (129) rials to the pound.

PERU. A South American west-coast republic, bounded on the north by Ecuador and Colombia, on the east by Brazil and Bolivia, and on the south by Chile. Area: 482,258 sq. mi., including Lake Titicaca and islands of the Pacific. Pop.: (1940 census) 7,023,111; (mid-1949 est.) 8,061,000, of which 13·3% are concentrated in the provinces of Lima and Callao covering only 3·3% of the total area. The racial distribution is estimated at 52·89% whites and *mestizos*, 45·86% Indians, 0·68% Asiatics and 0·47% Negroes. Religion: mainly Roman Catholic. Language: Spanish, but Indians speak only Quechua or Aymara. Chief towns (pop. 1945 est.): Lima (cap., 657,824); Callao, the main port (93,313); Arequipa (87,260); Cuzco (49,760). President of the republic, General Manuel A. Odría.

History. During 1949 the Odría regime, which had seized power in Oct. 1948, moved to consolidate its position. The military dictatorship was formalized by a decree dated Jan. 8, which announced the suspension of congress and the assumption by the cabinet of all executive and legislative authority. Civil rights were curtailed and press censorship was established in May; a measure promulgated in the middle of that month rendered all women between the ages of 21 and 45 subject to military service in the event of war. Labour groups expressed their opposition to the regime on Jan. 14, when the American Federation of Labour complained in a letter to the United Nations that labour organizations could no longer function normally in Peru; and on May 6, when a regional unit of the International Labour office, meeting at Montevideo, Uruguay, adopted a resolution censuring the Odría regime for alleged violations of workers' rights. Reportedly opposed to Odría were Luis Flores and Llosa González Pavón, leaders of relatively powerful right-wing political organizations.

Meanwhile, the leftist A.P.R.A. (Alliánza Popular Revolucionaria Americana) or People's party, known as Aprista and outlawed in 1948, was re-organized for more effective underground activity. Aprista leader Victor Raúl Haya de la Torre, who had been a fugitive since the time of the Odría revolution and had taken refuge in the Colombian embassy in January, petitioned for safe conduct out of Peru, which was denied by the military regime on Feb. 24. Safe conduct was similarly denied to Fernando León de Vivero and Pedro Muñiz, Apristas who had found sanctuary in the Cuban embassy; and Peru severed diplomatic relations with Cuba on Aug. 19, when it was discovered that León de Vivero and Muñiz had escaped to Havana.

The Odría government developed a programme of relaxing controls over foreign exchange, imports and exports. Duty-free imports of agricultural machinery and implements was extended for five years by a decree dated May 25, and President Odría declared on June 2 that the country needed foreign capital to develop technical skill, transport facilities and irrigation projects. Operations of the Peruvian International Airways were suspended on Feb. 28, when the company was unable to satisfy claims amounting to $800,000 due to general creditors and $4 million due to note holders.

(G. I. B.)

Education. (1946) Schools: elementary 7,700, pupils 850,000; secondary 96, pupils 35,000, Lima state university 7,000 students. There were three other state universities and the Catholic university at Lima. Illiteracy (1940). 56·6%.

Agriculture. Main crops ('000 metric tons, 1948): wheat 144; barley 161; maize 621; potatoes 674, rice (1947) 230; sugar, raw value, 470; cotton seed 113; cotton, ginned, 67. Livestock ('000 head, 1946): sheep 17,288; cattle 2,662; pigs 777; goats 962; horses 452; asses 349; llamas, alpacas and vicunas 2,450; poultry 9,500. Fisheries: total catch (1946) 27,657 metric tons.

Industry. Fuel and power coal (metric tons, 1947) 215,332; electricity (million kwh., 1948) 179; crude oil (metric tons, 1948) 1,875,000. Raw materials (metric tons, 1948). copper from ore 19,065; lead on mine basis 48,529; zinc ore 58,832; antimony 1,636; gold (fine ounces) 111,160; silver (fine ounces) 9,288,489; rubber 1,623

Foreign Trade. (Million soles) Imports: (1948) 1,089; (1949, six months) 1,265. Exports: (1948) 1,019, (1949, six months) 865 Principal imports: machinery, motor vehicles, cereals and products, meat and other food products Principal exports: cotton, sugar, petroleum and products and copper. Main source of imports: United States 54%, Argentina 18%, United Kingdom 7% Main destinations of exports United States 25%, Chile 19%, United Kingdom 16%

Transport and Communications. Roads (highways only, 1947): 21,550 mi. Licensed motor vehicles (Dec. 1948) cars 22,804, commercial vehicles 18,279 Railways (1947): 2,612 mi.; passenger traffic 5,560,713; goods traffic 3,378,184 metric tons Shipping (July 1948): vessels 44, total tonnage 92,386 Air transport (four main airlines, 1946): flights 6,078, passengers flown 72,184, cargo carried 1,753 metric tons, airmail carried 102 metric tons Telephones (1948): 43,000.

Finance and Banking. (Million soles) Budget: (1948 est.) revenue 927, expenditure 927, (1949) revenue 1,150, expenditure 1,150. National debt (June 30, 1948) 1,755. Currency circulation (June 1949; in brackets June 1948): 747 (670) Gold reserve (July 1949; in brackets July 1948): million U S $20 0 (20 2) Bank deposits (June 1949; in brackets June 1948) 1,202 (1,001). Monetary unit *sol* with an official exchange rate of £1=S 26 19, after Sept. 18, 1949, £1=S.18·20.

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PETITPIERRE, MAX, Swiss statesman (b. Neuchâtel, Feb. 26, 1899), after studying at the universities of Neuchâtel, Zurich and Munich, practised as a lawyer in his native town from 1922. He was professor of private international law at the University of Neuchâtel 1926-31 and 1938-44. In 1942 he was elected to the National Council as a Radical and on Dec. 14, 1944, to the Federal Council as minister of foreign affairs. Repeatedly re-elected to the latter post, on Dec. 16, 1948, he was also elected vice president of the Federal Council for 1949. In Feb. 1949, he attended the meeting in Paris of the Organization for European Economic Co-operation. In August he presided over the Red Cross conference at Geneva.

PETROLEUM. Although 1949, like previous years, was marked by local rationing of certain oil products, there was no longer an actual global shortage of oil, and the restrictions on the use of oil imposed in several countries were simply a symbol of the general economic problems from which many nations suffered. Shortage of dollars, especially in the sterling area, compelled purchases of "dollar" oil to be reduced to an uncomfortable minimum, while in the United States oil production was kept down because of the falling off in demand. World output of oil was thus well below the level it could have reached during 1949 had world demand required a continuance of the all-out effort for a maximum production.

Estimates for the first half of 1949 gave a total world production of 1,672 million bbl.—an average of 3,344 million bbl. for the whole year. This would show a definite pause in the steady upward trend which raised world production from 1,454 million bbl. in 1942 to 3,398 million bbl. in 1948.

In 1948 the order of the chief producing areas was: United States, Venezuela, U.S.S.R., Persia, Saudi Arabia, Mexico, Kuwait, Indonesia, Rumania, Iraq, Colombia, Argentina, Trinidad and British Borneo. During the first six months of 1949, a few minor changes occurred in the order of precedence. Thus Kuwait production passed that of Mexico, and British Borneo had a larger output than Trinidad, Argentina and Iraq—the last named suffering from political troubles

connected with the establishment of the state of Israel. At the beginning of 1949, also, Venezuela, the world's chief oil exporter, was for the first time surpassed in output by the middle east—though Venezuela remained by far the largest single producing country after the United States.

The most significant feature of the half-year was the decline in the output of the U.S. and Venezuela, for this was a direct indication that world production had caught up with world demand—although it had to be admitted that it was an attenuated demand, restricted in many areas for economic reasons. It was only by exercising considerable restraint in production and refining that the oil industry in the U.S. was able to keep supply and demand in balance. For the same reason, Venezuela also showed a considerable decline in output from the level of the previous year. For the first six months of 1949, output in these two countries was estimated at 931 million bbl. and 224 million bbl. respectively—amounting to 69% of world output compared with the 73% they contributed to the larger 1948 production.

In the middle east, however, output continued to rise. Persian production, at 97 million bbl. for the first half-year, was slightly above the 1948 average, while Saudi Arabia, which produced 92 million bbl., showed an increase of over 30%. The rise in Kuwait's production was even more spectacular, the production of 45 million bbl. for six months being less than 2 million bbl. below that for the whole of 1948. In Iraq, production was very low in the early months of 1949, owing to the fact that only the Tripoli pipeline was in use, the Haifa pipeline remaining closed; in the summer, however, the new pipeline to Tripoli came into operation; and this additional outlet was expected to raise production over the whole year well above the 1948 level of 26 million bbl.

Production in the middle east was, however, still limited by the lack of outlets, which would be overcome only with the completion of the various pipeline projects, some of which were already under way. These new pipelines would link the oilfields of Saudi Arabia, Persia and Kuwait to Mediterranean ports, while Iraq's existing pipeline capacity would be greatly expanded.

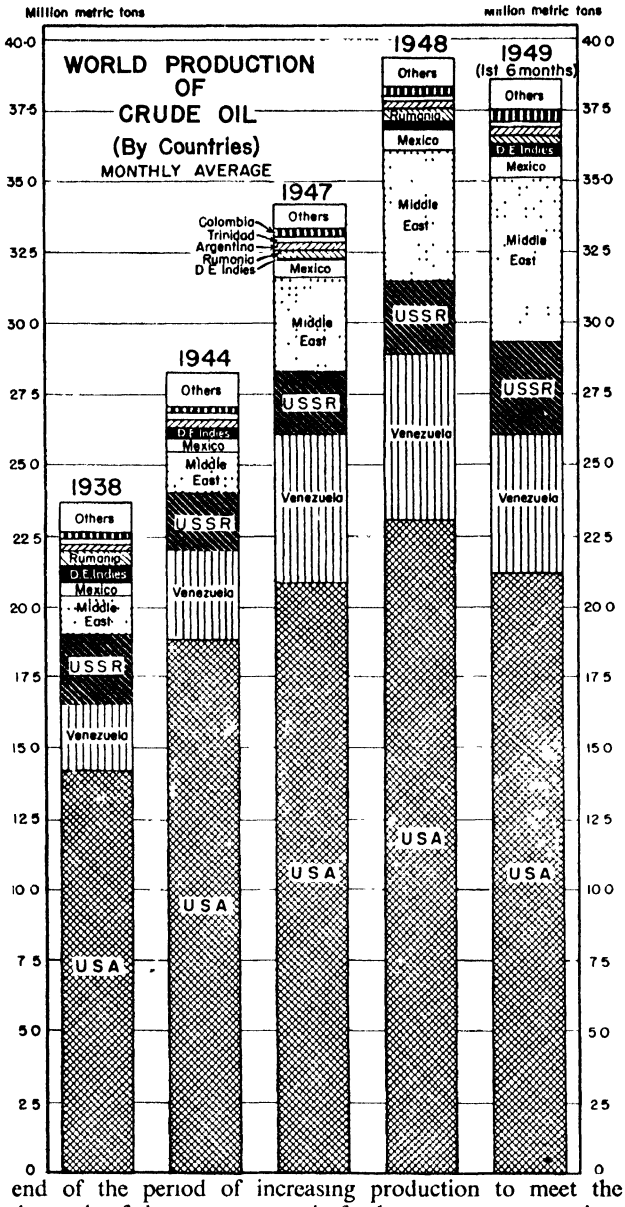
Of the other leading producers, no reliable figures were available either for the U.S.S.R. or for Rumania: neither was likely to show any considerable change from 1948 output, although the U.S.S.R. might have slightly increased her production.

In other areas, changes were noticeable which, though comparatively minor to world oil economy, were calculated to have a perceptible effect on local economies. Indonesian production continued to draw nearer to the prewar level, supplemented by output from New Guinea, which began the export of oil in the last days of 1948. British Borneo showed a further increase in output and was likely to prove the Commonwealth's largest producer for 1949—though before long it might be surpassed by Canada.

Canadian oil activity was most noticeable in Alberta, where several more important oil discoveries were made during 1949: output for the first six months of 1949 was almost 10 million bbl, compared with 12·4 million bbl. for the whole of 1948. Already production in Alberta was being restricted owing to the problem of disposing of the oil. A 450-mi. pipeline was under construction from Edmonton to Regina and later this would be extended a further 700 mi. to Superior, Wisconsin, U.S.

Other countries that showed signs of increasing output were Germany and the Netherlands, each of which, however, had only a small production.

For the world as a whole, 1949 might thus be regarded as essentially a year of transition. It showed a decline in output in the western hemisphere, only partly offset by higher output in the middle east and other areas. Thus 1949 marked the



end of the period of increasing production to meet the demands of the war years and of subsequent reconstruction. The fact that production for the first half year was below the average for 1948 was eloquent proof that the oil industry had caught up with the demand for oil. The year also represented a period of consolidation and advance in creating the new pattern for future world supplies. The still rising output of Persia, Saudi Arabia and Kuwait and the progress made in the pipeline projects for linking the middle east oilfields to the Mediterranean, emphasized that soon the eastern hemisphere would cease to rely on the U.S. and the Caribbean and look instead to the middle east for its oil. Inter-allied with middle east developments was the building up of European refinery capacity which, as pointed out in the O.E.E.C. programme published towards the end of 1949, allowed for a crude oil output in 1952-53 of nearly three times that of 1948. This expansion of Europe's capacity was, incidentally, like the developments in the middle east, a truly international affair, in which American as well as British and other European oil interests were participating.

In a word, 1949 might be described as a year in which the oil industry, besides catering for immediate requirements,

was also engaged in building for the future, so as to be able to meet even the large unrestricted demands which, once world conditions permitted of a freer economy, were to be expected. (K. W.)

PHARMACY. A survey by the International Pharmaceutical federation undertaken in 1949 elicited the following facts: in Great Britain the volume of dispensing increased by about 2½ times after the introduction of the National Health service in July 1948; in all other countries there was a reduction in the compounding of medicines and an increase in the sale of specialties; more pharmacists were employed in manufacturing concerns and by public authorities; generally, pharmaceutical training was extended and more countries introduced an equivalent of the honours degree course in pharmacy of London university; the cost of pharmaceutical training had become nearly equal to that of medical training.

Two important books were published: *The National Formulary 1949*, a standard prescriber's formulary for use under the health service; and the *British Pharmaceutical Codex 1949*, a book of standards for drugs and preparations which were not included in the *British Pharmacopœia*. The codex, which was last published in 1934, now provided standards for various preparations of human blood, such as liquid and dried plasma and serum, fibrinogen, fibrin foam and thrombin, thus ensuring the same preparations being supplied throughout the Commonwealth.

The cost of the pharmaceutical side of the British health service was far in excess of the estimates and in the first year's working 187 million prescriptions were dispensed at an average cost of 2*s.* 9½*d.* each. The principle of paying chemists on average values of prescriptions had to be continued and there was dissatisfaction at the delay in meeting accounts. The prescribing of expensive proprietary medicines was partly responsible for the high cost and a committee was appointed to consider whether it was desirable and practicable to restrict or discourage the prescribing of (i) drugs of doubtful or of an unethical character, and (ii) unnecessarily expensive brands of standard drugs. The advertising of popular medicines, although showing a slight improvement, was considered to be sufficiently exaggerated and misleading to engage the attention of the British Medical association, but beyond expressing the opinion (a) that the public should be protected against the dangers of self-medication, and (b) that more stringent measures should be taken to ensure that newspapers did not accept advertising from firms which disregarded the provisions of the *British Code of Standards in Relation to the Advertising of Medicines*, it put forward no proposal to mitigate the danger.

Several new medicinal compounds were synthesized; *e.g.*, chloromycetin, an antibiotic, which was active when given by the mouth in the treatment of typhoid fever and whooping cough, and L-thyroxine sodium, another orally-active compound representing an active principle of the thyroid gland. Compounds of corticosterone attracted considerable attention because of the results obtained in rheumatoid arthritis, especially with 17-hydroxy-11-dehydro-corticosterone (cortisone, compound E) and with the adrenocorticotropic hormone (ACTH), but no supplies were available commercially at the end of the year. Perhaps the most outstanding discovery was the production of vitamin B_{12} by deep fermentation of the mould *streptomyces*, thus providing a relatively cheap source of this anti-anæmic factor. (*See* also CHEMOTHERAPY; MEDICINE.) (W. K. F.)

PHILATELY. The year 1949 saw the 75th anniversary of the Universal Postal union which was founded in Berne, Switzerland, in 1874. To commemorate the occasion all countries of the world issued special series of stamps. Great Britain's four stamps were twice the usual size and were designed by Mary Adshead (2½*d.*), Percy Metcalfe (3*d.*), A. Fleury (6*d.*) and George R. Bellew (6*d.*). Each of the British colonies issued four stamps, and, with the exception of New Hebrides which had all four values in the design used for the 1*s.* issue of Bermuda, the designs were the same as for Bermuda (*see* illustration). The colonial designs represented Hermes, the globe and forms of transport; the hemispheres, aeroplane and steamer; Hermes and the globe; and the Universal Postal union monument at Berne. The most common designs for the U.P.U series of stamps were comparisons between transport in 1874 and in 1949, the U.P.U. monument and a globe or the two hemispheres.

The French issues in 1949 included ones for the 250th anniversary of the death of Jean Racine and a Christmas charity set. In Italy stamps were issued, amongst others, for the opening of Holy Year, the rebuilding of Holy Trinity bridge, Florence; the 13th Bari fair; the 400th anniversary of the completion of Palladio's basilica at Vicenza; the 500th anniversary of the birth of Lorenzo de' Medici; the bicentenary of the birth of Vittorio Alfieri; and the 150th anniversary of the discovery of the electric cell by Alessandro Volta. San Marino, a tiny country, yet a prolific supplier of new sets, continued to issue stamps of interest to philatelists. Its 1949 issues included stamps to commemorate Garibaldi's retreat from Rome. The republic of Ireland, which before April 1949 was known as Eire, issued stamps to mark the new international status of the country.

In Asia many new issues were made. India issued an archæological series of 16 stamps and on Sept. 11, the first anniversary of the death of Mohammed Ali Jinnah, a set of memorial stamps was issued in Pakistan. In accordance with Islamic custom, they did not bear any portrait but instead carried Jinnah's watchwords, " Unity, Faith, Discipline."

Persia issued stamps to commemorate the country's war effort, and in aid of a fund for the protection of the country's national monuments. Stamps were issued for the first time bearing the legend " The Hashimite Kingdom of the Jordan " in place of Transjordan. In Syria the portrait of Husni ez-Zaim, who was dictator of Syria from March until his execution on Aug. 14, appeared on two issues.

Japan probably made the largest number of new issues during 1949. Among events recorded were the children's festival day, the 75th anniversary of the central meteorological observatory in Tokyo and the setting up of a memorial city at Hiroshima. A series was issued of views of the Fuji-Hakone national park.

The devaluation of many currencies in September had little repercussion on stamps. Market prices recessed slightly in current issues for the countries affected, in terms of hard currencies. Some values, in Swiss gold centimes, were no longer valid for the international service for which they were originally designed.

Societies. The Junior Philatelic Society of London celebrated its 50th anniversary in November. From a charter membership of 10 it had expanded to more than 3,000. In October the Chicago Philatelic society held its 1,500th consecutive semi-monthly meeting. A commemorative medal was issued for the occasion.

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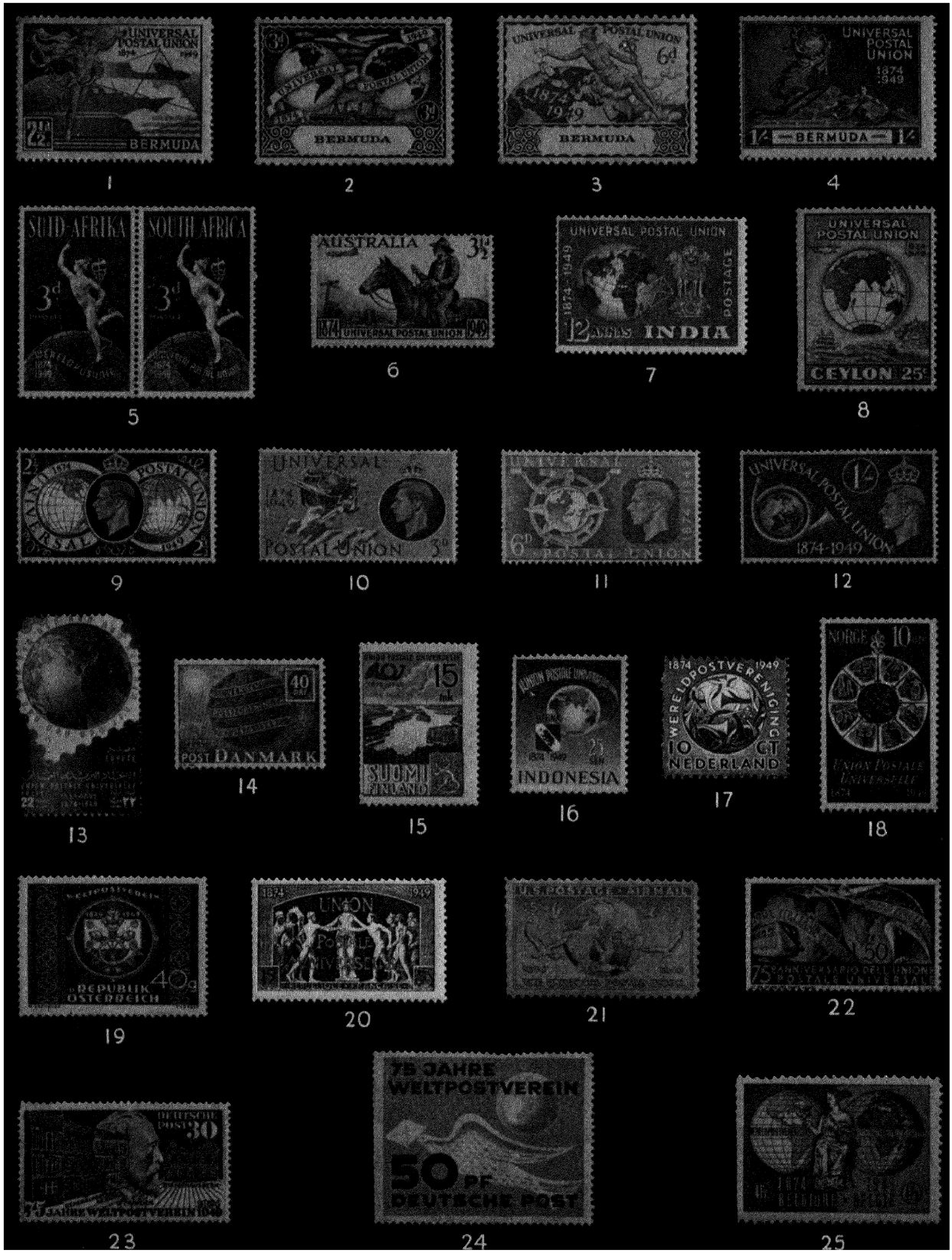

A selection of the stamps issued to commemorate the 75th anniversary of the Universal Postal union. 1-4, British colonies; 5, South Africa; 6, Australia; 7, India; 8, Ceylon; 9-12, Great Britain; 13, Egypt; 14, Denmark; 15, Finland; 16, Indonesia; 17, the Netherlands; 18, Norway; 19, Austria; 20, France; 21, United States of America; 22, Italy; 23-24, Germany; 25, Belgium.

University Library, HYDERABAD (DECCAN).

PHILIPPINES, REPUBLIC OF THE. An island republic lying about 500 mi. off the southeast coast of Asia; an archipelago of 7,107 islands extending north and south about 1,152 mi. and east and west about 688 mi. Eleven islands have an area of over 1,000 sq. mi., the largest being Luzon (40,814 sq. mi.) and Mindanao (36,906 sq. mi.). Total area: 115,600 sq. mi. Pop.: (1939 census) 16,000,303; (Oct. 1, 1948 census) 19,234,182. In 1939 the population included 117,500 Chinese and by official count their number was 140,000 by 1949, but the actual full blooded Chinese population exceeded 200,000. There were 43 identifiable ethnic groups in the islands but the dominant stock of the population was Malayan; the aborigines of the archipelago were akin to the Australian blacks and Papuans. The term "Filipino" in Spanish times meant the same as creole, that is, an island native of Spanish descent. Languages: English (spoken by about 5 million), Spanish (about 500,000) and some 87 dialects of which 8 or 9 were spoken by 90% of the people; Takalog, spoken by about 3·5 million, was declared the national language. Religion: mainly Roman Catholic (about 80%), but there were also about 1·8 million followers of the Independent Filipino (Christian) Church, about 425,000 Protestants of all sects, 700,000 Moslems (the Moros of Mindanao) and almost 700,000 pagans widely scattered. Chief towns (pop. 1939 census): Manila (cap., 623,492; [1949 est.] 1,300,000); Cebu (146,817; Zamboanga (131,455); Davao (95,546); Iloilo (90,480). President of the republic and secretary of foreign affairs, Elpidio Quirino.

History. Politics dominated the stage during the year. Elpidio Quirino, having succeeded President Manuel Roxas upon the latter's death on April 15, 1948, became a candidate for the presidency at the elections at the end of 1949. Party politics provoked many charges of corruption and dragged up the issue of wartime Japanese collaboration, so that the election campaign was a rough one. José Avelino, former president of the Senate and leader of the Liberal party, ousted from both posts on charges of selling war surplus property, led a rebel wing, Quirino heading the main body of the party. Strongest opposition came from Nationalist party candidate José B. Laurel, wartime Japanese puppet president. In the election on Nov. 8, military pressure, violence and disorder resulted in protest concerning nearly one half of the total votes cast. On almost complete returns the count stood (Nov. 21): Quirino 1,711,448; Laurel 1,282,994; Avelino 399,931. A short-lived rebellion broke out in Batangas, Laurel's home province, after the election. Quirino's Liberal party won a majority in congress, controlling some 60 out of 100 seats in the House of Representatives and at least 15 out of 24 seats in the Senate.

The Hukbalahap, led by Luis Taruc, originally a wartime anti-Japanese guerilla organization, had become dominated by Communists and had militantly espoused the cause of Philippine tenant farmers. The result of 1948 military punitive expeditions against them was to scatter the partisans throughout the mountain country of Luzon. Campaigns during 1949 made little headway toward eliminating the Hukbalahap, though they formed no major internal threat during the year.

Changes in agrarian legislation during 1947-48 made technically possible the peaceful amelioration of tenant problems, but landlord domination of central Luzon's rice lands prevented effective agrarian adjustment and maintained the basic unrest which could be exploited by the Hukbalahap. Expansion of colonial land settlement projects in the southern Philippines was undertaken both to help increase agricultural production and to alleviate Luzon's agrarian problems.

On July 10 Quirino met Chiang Kai-shek at Baguio, Luzon. A communiqué issued after the meeting emphasized the necessity for the countries of the Pacific and east Asia to collaborate against Communism. Shortly after, Quirino was invited by President Truman to visit Washington. He arrived there on Aug. 8, addressed the Senate and the House of Representatives the next day, had talks with Truman and Dean Acheson and left the U.S. capital on Aug. 11. It was clear from a statement issued by the two presidents that the idea of a Pacific military alliance had been dropped for the time being.

On Oct. 15, the U.S. Philippine army command was reduced to the Philippine air command, with headquarters at Clark Field, north of Manila. This became the headquarters of the 13th air force and the only major U.S. military base in the Philippines.

The U.S. War Damage commission expected to release about $185 million between July 1949 and June 1950 in partial settlement of major public and private claims. Small claims were paid in full during 1947-48, leaving major claims to be liquidated by annual instalments during 1948-51.

Postwar trade showed an extraordinarily large volume of imports and a decreased volume of exports, in contrast to prewar trade which normally showed a surplus of exports. Most Philippine trade still was with the United States. Though agricultural productivity for home use crops was above normal, the export volumes of sugar, abaca and tobacco had not yet returned to prewar levels. Only coconut products exceeded prewar productions.

The year was the first of a five-year programme of agricultural expansion and industrial development designed to even the balance of trade and maintain the advance in the standard of living. The 1948-49 rice crop of 2,660,000 short tons was one of the largest ever grown, but still was insufficient to feed the growing population. Increased rice production, already the leading crop, was one of the chief aims of the programme. Sugar production for the crop year 1948-49 was 728,000 tons, with 27 refineries operating. For the crop year 1949-50 there would be 29 refineries in



Elpidio Quirino, president of the Philippines, with Cardinal Francis Spellman in New York, Aug. 1949.

operation and the yield was estimated at about 830,000 tons, a vital part of the export programme. Timber production exceeded the prewar normal output during 1949, with a cut of 1,037 million board feet, permitting a small export programme. (J. E. SR.)

Education. Schools (1945-46) state 11,791, pupils 2,500,055, teachers 46,854; private 468, pupils 168,584, teachers 5,913. University of the Philippines, students 3,155. Illiteracy (1939): 51%.

Agriculture. Main crops ('000 metric tons): abaca (1948) 74; tobacco (1947) 29; maize (1948) 543. Livestock ('000 head): cattle (Jan. 1945) 560; pigs (Dec. 1945) 1,903; horses and mules (Dec. 1945) 169; sheep (Dec. 1945) 19; goats (Dec. 1945) 187. Fisheries: total catch (1947) 190,000 metric tons.

Industry. Coal production (1946) 20,000 metric tons. Raw materials ('000 metric tons): chrome ore (1946) 58; manganese ore (1941, nine months) 51; copper (1941 est.) 10; gold (1947) 64,441 fine troy oz. Manufactured goods: woven cotton fabrics (1948) 7·5 million metres; cement ('000 metric tons, 1948; 1949, six months, in brackets) 119 (94); dessicated coconut ('000 metric tons, 1947) 35; coconut oil (1947) 70,000 metric tons.

Foreign Trade. (Million pesos) Imports: (1948) 1,172, (1949, six months) 532; exports: (1948) 636, (1949, six months) 281.

Transport and Communications. Roads (1946): 14,933 mi. Licensed motor vehicles (Dec. 1948): cars 28,000, commercial vehicles 45,000. Railways (1946): 563 mi. Shipping (July 1948): number of merchant vessels of 100 tons and upwards 38, gross tonnage 96,004. Air transport (1947): miles flown 6,788,492, passenger-mi. 80·6 million Telephones (1948): 6,917

Finance and Banking. (Million pesos) Budget (1947-48 est.): revenue 263, expenditure 307; (1948-49 est.). revenue 392, expenditure 499. Currency circulation (April 1949; in brackets, April 1948): 577 (492). Bank deposits (April 1949; in brackets, April 1948): 575 (472). Monetary unit: *peso* with an exchange rate of 5·63 pesos to the pound (£1 = 8·10 pesos before Sept. 18, 1949). In Dec. 1949 the domestic buying rate for U.S. $ was 2·008 pesos and the domestic selling rate 2·01 per dollar.

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PHILOSOPHY. During 1949 the general pattern of controversy in philosophy continued unchanged from that of 1948. It was, in outline, the pattern which controversy had always taken up, especially in times of political crisis: on the one side were the intuitionists and idealists and on the other were the empiricists and materialists; the former tended to reject, and the latter to advocate, scientific method as the instrument of most value in solving urgent problems.

But, although the two sides still existed in their traditional form, there had emerged during the preceding 30 years, what might be called a third party, which held that the function of philosophy was not to answer questions about the nature of reality nor to work out rules of conduct but to analyse and clarify the language in which discussions took place about the world and how to behave in it. In the course of thus analysing talk about ethics, these philosophers came to the conclusion that the traditional method of basing moral judgments upon metaphysical foundations was mistaken, since in their opinion it was impossible to decide objectively between (*i.e.*, to verify) the claims of moral judgments that were based upon metaphysical propositions but happened to be contradictory.

This is, of course, a much simplified statement. There were detailed variations of attitude among philosophers who belonged to this third party—that is to say, among those who were associated with scientific empiricism, logical positivism and logical analysis. But it was not possible to understand contemporary discussion of ethics without a realization that in general these philosophers stood rather aside from the traditional controversy. For they were not concerned to *make* moral judgments; they were concerned only to *analyse* them. It was true however that, in attacking metaphysics, the positivist philosophers tended to identify themselves, in their general outlook, more with the empiricists and materialists than with the idealists, and were taken, too, to be attacking morality in general.

There were then two axes of controversy in ethics, and indeed in philosophy as a whole: one between opposed schools of metaphysicians; *e.g.*, idealists and dialectical materialists, and the other between metaphysicians of all schools and positivists.

To deal first with the idealist-materialist axis: during 1949 this controversy became more acute in most European countries; people were naturally concerned with the over-riding political questions implicit in the opposition between the U.S.S.R. and the western nations, and this led to discussion of the ethics of Marxism, based in Italy partly upon Eugenio Pennati's *L'Etica e il Marxismo* (Florence, 1948). In France there was, perhaps, more concern with the practical consequences of the adoption of the opposed philosophies. Such discussion was, of course, directed to the valuation of moral judgments rather than their analysis. This was partly why it is considered under the heading of the idealist-materialist axis, although such a placing begs a debatable question; for some Marxists would probably claim that dialectical materialism was essentially a scientific system and should not, therefore, be treated as a rival metaphysic to that of idealism. However, Marxists continued during 1949 to attack the positivist position, thus suggesting that their own position was at the other end of the metaphysical-positivist axis. In 1948 they had attacked logical positivism directly. In the early part of 1949, as a result of an article which appeared during Nov. 1948 in the Soviet *Literary Gazette* and condemned reactionary-idealistic forces in Soviet biology, discussion centred round the philosophy of science and particularly the philosophical consequences of quantum theory. Niels Bohr and W. Heisenberg, among others, were condemned for western and bourgeois ideals of physics and it was suggested that quantum theory had been used to justify idealist mystical conclusions. Some of the leading Soviet physicists were also criticized for idealism and formalism in atomic theory. The assumption underlying these attacks appeared to have been similar to that underlying the attacks on logical positivism; the suggestion that words like neutron, meson, quantum, etc. were used rather as symbolic aids to calculation and prediction than as labels for material objects seemed to have been taken as an idealist denial of the existence of the real world and thus of the materialist principle that matter is the ultimate reality.

In this connection, N. Bohr's principle of complementarity is relevant. For it may resolve the contradiction implied in saying that elementary particles such as neutrons and protons are both waves *and* particles. It stated that there was no meaning to the question of whether they were really waves or particles; the wave and particle concepts were merely analogies which acted as symbolic aids to the physicist in dealing with separate aspects of the phenomena he was studying and they could therefore be regarded as complementary rather than contradictory. This principle was originally applied only to physics. But during 1949 its possible application to other fields and to philosophy in general was widely discussed; for instance, in the journals *Synthèse* (Bussum, Holland) and *Dialectica* (Neuchâtel, Switzerland) by Chr. P. Raven, L. de Broglie and J.-L. Destouches.

To return to ethics: Jean-Paul Sartre's atheistic existentialism was a philosophy which was opposed, like Marxism but on very different grounds, to the idealistic metaphysic of morals. In Great Britain interest in this philosophy had died out, but in Europe it was still discussed—for instance in Spain in *Filosofia y Letras*. In the U.S.A. there was published a translation of Simone de Beauvoir's *Pour une morale de l'ambiguité* (Paris, 1947) under the title of *The Ethics of Ambiguity* (New York, 1948). Madame de Beauvoir's central theme was that man could not just adopt a ready-made code of morals; he must make his own anxious choice. There was

also some discussion of Heidegger's existentialism in Italy. The Christian existentialist Gabriel Marcel published *Position et approches concrètes du mystère ontologique* (Paris, 1949) while a translation of his *Philosophy of Existence* appeared in the U.S.A. (New York, 1949) and a translation of his *Etre et Avoir* in England (London, 1949).

The ethical aspects of the metaphysical-positivist axis of controversy had begun, during 1948, to attract the attention of the general public in Great Britain. But the positivist philosophers themselves had taken little part in non-academic discussions, since these were concerned mainly with making judgments rather than analysing them. However, in 1949, A. J. Ayer attempted to explain his position in a discussion with F. C. Copleston on the B.B.C.'s Third programme and in an article "On the Analysis of Moral Judgments" (*Horizon*, London, Sept. 1949). He claimed, incidentally, that a man who held logical positivist views about the analysis of moral judgments was not thereby precluded from having personal moral standards nor from making moral judgments which may be as good as other people's, although he *was* precluded from holding that these judgments were a logical consequence of his philosophy. On the other hand, C. E. M. Joad put forward in a number of lectures and articles (*e.g.*, *Hibbert Journal*, London, Oct. 1949) the view that, although logical positivists might not intend to attack morality in general, the practical effect of their philosophy was in fact to destroy it.

Interest in positivist views and in allied linguistic questions was still confined mainly to Great Britain, Holland and the U.S.A. There was no discussion of them in France, and although a bibliographical introduction to *Der logische Positivismus* by Karl Durr was published in Berne in 1948, few Germans could afford to buy Swiss books. German philosophy indeed appeared to remain very much isolated from development in the rest of the world. (*See* Hartmann in the *Bibliography*). It was an unfortunate sign of the times that information about German philosophy was almost impossible to obtain in England. The current journals were not taken even by the British Museum. Karl Jaspers' *Von der Wahrheit* (Munich, 1948)—the first volume of a comprehensive logis of metaphysics and philosophy based on an original definition of truth—seemed to have been regarded as the most important work lately published.

In fact it was probably true to say that, in general, intuitionist and metaphysical views gained further ground as against positivist views. In Latin America for instance, (*see* Cannabrava in the *Bibliography*) intuitionism was much in the ascendant. Reason was regarded as useless and burdensome, incapable of conveying the deep meaning of existence with its emotional content.

Apart from an article by C. D. Broad on "The Relevance of Psychical Research to Philosophy" (*Philosophy*, London, Oct. 1949), there was little further discussion of extra-sensory perception, although the journal *Enquiry*, which had been started in 1948, continued publication. However, interest in the capacities of the human mind was stimulated by reports of the capacities of machine minds of electronic calculating machines. Although this subject was mainly a scientific one, it had philosophical implications of two kinds. In the first place, it involved questions as to whether the human mind was *essentially* different from any machine. In the second place, there was the question whether the ways in which calculating machines function could throw any light upon philosophical problems such as those connected with perception and the status of universals. Questions of the first kind were discussed (though not in this context) by Gilbert Ryle (editor of *Mind*) in broadcasts and in *The Concept of Mind* (London, 1949), which adopted broadly the non-vitalist attitude in setting out to show that the distinction between the inner and the outer world could not be sustained in its Cartesian form. Questions of both kinds were discussed in some chapters of *Cybernetics* by Norbert Wiener (New York, 1948; London, 1949), the word "cybernetics" having been coined by Dr. Wiener himself as a name for the general subject of control and communication in the animal and the machine. His view was also non-vitalist; indeed he suggested that the whole mechanist-vitalist controversy could be relegated to the limbo of badly posed questions. (*See* also THEOLOGY.)

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PHOTOGRAPHY. In Great Britain during 1949, there was a certain amount of progress in the development of new cameras and for the first time a popularly priced British made 35-mm. instrument was made available. This was the Ilford Advocate, a sturdy little instrument with die cast body, finished in an unusual but pleasing cream colour and fitted with a bloomed lens of 35-mm. focus. This camera took the standard 24 x 36-mm. frame using the well known velvet light trapped cassette, had a wide range of shutter speeds up to 1/200 sec., and focusing mount.

Another successful British-made instrument was the new Selfix 820 made by Barnet-Ensign-Ross Ltd. Fitted with a British-made speeded shutter with exposures from 1 to 1/250 sec and with an f/3·8 Ross Xpres lens coated, it took either 120 or 620 spools and either eight pictures 2¼ x 3¼ in. or twelve pictures 2¼ in square, hinged masks being provided for the change over. The shutter was fitted with built-in contacts for flash work using the popular Speed Midget bulbs.

Two interesting cameras for the professional worker also appeared during the year. One was the 4 x 5 in. M.P.P. camera with a wide range of movement including a triple extension with crossed front, a tilting front and a four-way swing and revolving back with, when required, a coupled range finder. The other camera was an entirely new design for press men and was known as the "Nelrod." A particular feature was the completely built-in flash equipment for either electronic flash or consumable bulbs, it also had a coupled range finder, rapid focusing, quick change dark slides, etc.

But perhaps the most important introduction from the popular point of view was the British-made Speed Midget flashbulb which did so much to revolutionize popular photography in the United States. These bulbs were made by two firms, the General Electric company and the British Thomson Houston company, who were also making the wire-filled bulbs with the 20 milli-second delay. These bulbs enabled most British manufacturers of the cheaper cameras to provide built-in flash contacts so that night photography became as simple as daylight photography.

Two new British made photo-electric exposure meters were introduced. The first was the Avo, the new model of which was being distributed by Kodak Ltd., while another photo-electric meter known as the Ilford Model C was being distributed by that company.

In British-made colour films, Ilford Ltd. distributed both daylight and photoflood emulsions in their 35-mm. "Ilford-colour." (P. W. H.)

Great progress was made during 1949 in re-establishing international trade in photographic products. Germany was rapidly coming into full prewar production by making more than 78,000 cameras a month during the latter part of the year. About 28,000 of these cameras came from the Agfa Kamerawerk, under U.S. administration, and more than 3,000 Leica cameras and about the same number of Rolleiflex cameras came from the western zones of Germany each month. A large part of this production was being exported to the United States.

Agfa Kamerawerk introduced two new cameras, the Karat and Isolette, which were sold in the United States under the names of Karomat 36 and Ventura, respectively. Both were of the miniature type, the Karomat 36 with built-in coupled range finder, using a 35-mm. film and the Ventura made for use with a film which made 2¼ x 2¼ in. negatives.

At the International Trade fair in Utrecht, Netherlands, early in April, photographic equipment from both eastern and western Germany was on official display for the first time since World War II outside Germany. From the Dresden works of Zeiss-Ikon came a newly designed Contax "S" camera. The important change in this 35-mm miniature camera was in the eye-level reflex focusing method, which replaced the former built-in range finder. New models of the Kine Exakta camera were on exhibition, equipped with Hugo Meyer lenses.

Progress in the Netherlands' photographic industry was shown by products from De Oude Delft Optische Industrie, with their new telephoto, wide angle and enlarging lenses, and the Philips company at Eindhoven. The latter company showed their new PF25N flash bulb, available in three different colour temperatures of 3,400°, 4,000° and 6,000°K. Philips also had a small hand flash lamp outfit for use with their make of flash lamps. Flash photography was slow in developing on the continent, primarily because of the lack of equipment and supplies.

Franke and Heidecke displayed models of their Rolleiflex cameras. A new Magnar telescopic lens attachment was of interest. This auxiliary lens fitted over the standard 7·5-cm. Rolleiflex lens to give it an effective focal length of 30-cm. A new Rolleiflex was introduced later in the year with such features as a new Compur shutter with built-in flash synchronization, eye-level viewing and focusing, a full-image magnifier and a new carrying case.

Japan made steady progress in getting its photographic industry back into full production. By the end of the year photographic manufacturing had reached 60% of prewar production. There were 36 important camera manufacturers employing more than 4,500 workers. The camera industry represented about 37% of the optical equipment industry in Japan. The main cameras for export were in the miniature camera class, using 16-mm. and 35-mm. films. Many were almost direct copies of German cameras like the Contax, Leica and Rolleiflex. The Japanese Motoca 35, Leotax Special and Canon Sil were similar to the Leica. Other cameras in the miniature class included the Nikon, Olympus 35, Mamiya 35, Steky, Minion 35 and the 35-mm. Konica. A number of these cameras were finding a market in the United States.

United States. A new du Pont Polymer Print film was a notable addition to the field of colour motion-picture photography. This film was designed to be printed from three black-and-white separation negatives and to be developed in colour during a single passage through a slightly modified conventional developing machine. Formerly the emulsion layers for colour-forming development contained at least three components—gelatine, silver halide and colour former. In the printing film worked out by du Pont, only two components were employed—silver halide and a water-sensitive synthetic polymer playing the role of both gelatine and colour former.

The Kodak Ektacolour film was made available. This new colour film, first announced in 1947, produced a negative whose colours were complementary to those which would appear in the final print. Ektacolour simplified the making of colour prints and photomechanical reproductions by eliminating the need for masking and for separation negatives. This film was intended primarily for professional use in artificial light. It could be processed in the photographer's studio. Kodak Pan Matrix film was also brought out in connection with Ektacolour. This new film permitted positive colour printing matrices to be made directly from Ektacolour transparencies either by contact printing or by enlarging through filters without any intermediate processes. A special black-and-white proofing paper for use with Ektacolour film and a special Kodak Vacum Register board to speed printing with Pan Matrix film were also available. Kodacolor film, type A was a new colour roll film properly balanced for clear flash and flood illumination. No filters were required for its use with this type of lighting indoors. This film had the same emulsion speed as a regular Kodacolor film. It was of the colour coupler type and had a wide colour-reproduction latitude.

New Equipment. A new Kodalith Blue-Sensitive film for the graphic arts became available. The new film, which had no anti-halation backing, was specifically made for those who wanted to reverse an image by exposure through the back of the film. The general characteristics of the new film were somewhat similar to Kodalith Ortho film, type II, except that the new film was not an orthochromatic emulsion.

A new model of the Kodak Tourist camera incorporating a radically new between-the-lens shutter with an accurate top speed of 1/800 sec. was the world's fastest shutter of its type, with the widest speed range in the folding camera field. To attain this exposure speed the blades in the new shutter pivoted and rotated through a partial circle inside the shutter housing. As the rotation progressed, the shutter aperture opened and then closed. There was also a built-in flash synchronizer in this shutter.

The Kodak Reflex II camera was a new twin-lens reflex camera equipped with the new plastic Kodak Ektalite Field lens in the viewing system. The insertion of this flat, grooved lens beneath the camera's ground glass increased the over-all illumination on the ground glass by 250% and corner and edge illumination by 1,000%. Critical focusing was speeded and made easier and composition was simplified because of the more brilliant image.

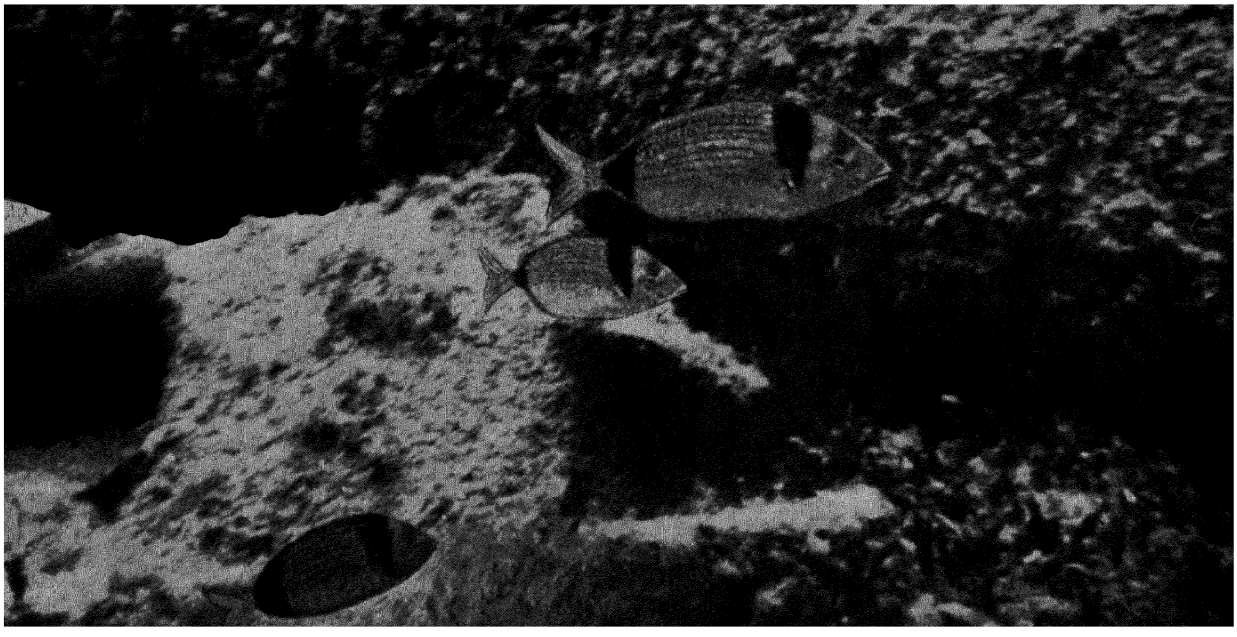
Compared with previous years there was not very much new equipment for the darkroom worker. However the Kodak Flurolite enlarger and the Kodak Hobbyist enlarger were important exceptions.

High-Speed Photography and Special Developments. In the field of high-speed photography the new Kodatron Colour Speedlamp was of importance. This new model had approximately 20 times the light output of the former Kodatron Studio model. The power output ranged from 1,000-watt-sec. with one power unit and one condenser to 2,736-watt-sec. with one power unit and three condensers.

A new Graflex 2¼ x 3¼ Century Graphic was produced in the field of miniature press-type cameras. Graflex roll film holders were made for use with the various Graflex cameras. The Super D Graflex single-lens reflex cameras were equipped with a highly specialized Fresnel lens for increasing uniformity as well as intensity of screen illumination in the picture viewing system. A 2¼ x 3¼ Century Graphic camera was made similar in design to the Speed Graphic cameras but without the rear focal plane shutter.

The Polaroid Land camera, introduced at the beginning

HYDERABAD (DECCAN).



In July 1949 the Admiralty released a series of photographs (one of which is reproduced above) taken by a new technique in underwater photography. The photographers were equipped with adapted "frogman" suits and could take photographs to a depth of 100 ft.

of 1949, rapidly established itself. With this camera it was possible to expose and develop a finished picture inside the camera within one minute. By the end of the year nearly 7 million pictures had been taken with these cameras. In addition to the overwhelming majority of cameras used for taking pictures for personal use, many were used in the industrial and business fields where they were invaluable for recording purposes.

Stereoscopic photography made steady progress with the Stereo Realist camera and with the new Three Dimension Company's Stereo projector which was equipped with Polaroid filters to give unusual stereoscopic effects upon the projection screen.

Bausch and Lomb Optical company introduced nine new Animar motion-picture lenses for 8-mm. and 16-mm. photography. There were five standard and four telephoto lenses. Important features of these lenses besides their optical qualities were the spread diaphragm stops for easier readability and the click stops for changing settings without looking at the lens scale. This manufacturer also produced a new series of high-speed projection lenses especially for large cinemas with a speed of f/2·0.

General Electric made a new photographic flash tube to operate at speeds of 1/5,000-sec., with an improved triggering circuit for use with lightweight portable power speedlamp units. A new 375-w. photoflood lamp was made with a narrower beam spread which gave more light on the camera subject than the wide-beam 500-w. reflector photoflood lamp. General Electric also produced an extremely powerful photographic floodlight producing light from 7 to 15 times the intensity of sunlight for use with high speed motion-picture work where speeds up to 8,000 pictures per second were required. This lamp produced 75,000 ft.-candles of light, as compared with the normal 50 ft.-candle level existing in the better indoor lighting systems.

Electron Microscopy. Developments in electron microscopy were not spectacular, though there was a steady stream of new results. In the Radio Corporation of America laboratories at Princeton, New Jersey, the first quantitative method of testing the symmetry of electron microscope objectives was perfected. A new removable intermediate lens was developed to provide magnifications from 1,000x to 20,000x without changing lenses.

Considerable new work was done on the ultra thin sectioning of tissue. C. E. Hall of the Massachusetts Institute of Technology, Cambridge, Massachusetts, made electron micrographs of crystals made up of molecules of seed globulin. These are the smallest (6 mu.) molecules seen in crystalline form. J. L. Melnick of Yale university, New Haven, Connecticut, photographed virus-like bodies from human skin papillomas in what appeared to be a crystalline arrangement. In spite of his conservative pronouncements, it was generally accepted that this represented the first demonstration of an animal virus in crystalline form. (*See* also CINEMA; TELEVISION; X-RAY AND RADIOLOGY.) (W. D. MN.)

PHYSICS. During 1949, while science was still recovering from its exploitation during World War II, considerable advances were made along many lines, notably in microwave physics, in the interpretation of cosmic ray phenomena, in the application of molecular vibrations to the standardization of time intervals, in the cataloguing of the properties of radioactive materials, in low temperature physics and in the theory of the nucleus. A few special topics described briefly below show the progress made in fundamental physics.

Several important groups of physicists turned their attention to the problem of abstracting the literature of physics. Especially since about 1938, it had become virtually impossible for a physicist to read in full, much less study, all the published papers that interested him, even if all the physics periodicals of the world were accessible; and it is essential that a research physicist should keep abreast of the times. It was felt that the problem might be solved by a new abstract service of some kind. Most English-speaking physicists had relied on *Physics Abstracts*, issued monthly in England by the Institution of Electrical Engineers; but judged by modern standards that compilation was believed to have

become inadequate in several respects. In order that a practical and acceptable solution of the problem might be reached, the American Institute of Physics, working with the Office of Naval Research, spent 1949 in assembling the information necessary for answering such questions as: How important are abstracts to physicists? How do they try to use the abstracts? What do they think of the abstracts they now have? What kind of abstracts would they like? The results of this study were awaited with interest.

Neutron. The neutron, an uncharged particle of approximately the same mass as the proton, is a constituent of all atomic nuclei except ordinary hydrogen. The particle is unstable (or radioactive) when liberated into the free state by the breaking of nuclei; but its half-life was known only by theoretical estimate. The half-life had not been measured experimentally for the simple reason that it was impossible for neutrons to be imprisoned within a vessel as atoms of gas could be. The neutrons, having no electric charge, would escape immediately through the walls of the vessel, no matter of what it was made. Without giving detailed reasons, it may be asserted that the only feasible method of determining directly the half-life of the neutron was by making measurements on a newly born stream of neutrons such as emerged from a nuclear reactor. The experiment would have no chance of success unless the stream of neutrons was very intense. Utilizing the neutron stream, probably the most intense in the world, emerging from the nuclear reactor at Chalk River, Ontario, J. M. Robson was able to measure the intensity of the positive decay protons by a focusing ion-spectrometer. The effect that was measured, and on which the half-life was based, was a proton current that stood out about 30% above the background of the counting devices used. In most experiments in nuclear physics, such a situation would be presumed to lead to fairly reliable numerical results. Robson's final figure was that the half-life of the neutron, as measured directly, lay between 9 and 18 min., in agreement with theoretical estimates. (For example, in 1947, in the course of a formal lecture, H. A. Bethe estimated the half-life at 20 min.) Independent experiments, carried out at the Oak Ridge, Tennessee, laboratories of the Atomic Energy commission and reported in Nov. 1949, indicated that Robson's result was unlikely to be wrong.

Radioactivity. The following is quoted from an article by J. H. Webb in the *Physical Review*, Aug. 1, 1949:

> Following the explosion of the experimental atom bomb at Alamogordo, New Mexico, on July 16, 1945, a radioactive contaminant was encountered in strawboard material used by Eastman Kodak company for packaging photographic sensitive films This paper board was manufactured in a mill situated at Vincennes, Indiana, on the Wabash river A run of strawboard, produced on Aug. 6, 1945, showed this new and unusual type of radioactive contaminant. X-ray film packed with this board showed fogged spots after about two weeks' exposure
>
> Measurements of the contaminated spots of strawboard showed no alpha-activity but a fairly strong beta-activity. Absence of alpha-activity ruled out naturally radioactive materials. Measurements of the beta-activity showed a maximum energy of 0 6 Mev and a half-life of approximately 30 days. Radiochemical studies of the active ash from the strawboard indicated that the material was of the rare earth series. The energy value and half-life of the beta-radiation are compatible with the isotope Ce 141.
>
> All studies point to the conclusion that the radioactive contaminant was an artificially radioactive material which found its way into the mill through the river water. The most likely explanation seems to be that it was a wind-borne fission product derived from the atom-bomb detonation in New Mexico on July 16, 1945.

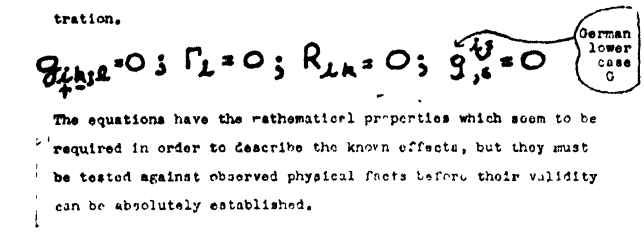
Similar effects were caused by strawboard manufactured in Sept. 1945 at a paper mill in Iowa, several hundred miles from Vincennes, Indiana, and on a different watershed. The amounts of radioactive material involved were in all cases exceedingly small, and it was only because the strawboard happened to be used for packaging sensitive photographic film that it was detected at all. Presumably, specks of radioactive dust, perhaps precipitated with rain, were carried down by the rivers and filtered out during the manufacture of the strawboard.

A New Meson. The photographic methods used in the discovery of new fundamental nuclear particles by C. F. Powell and his colleagues at the University of Bristol since 1946 were adopted in many laboratories throughout the world. Since the examination of photographic emulsions for tracks that showed evidence of new phenomena took some time, further progress might, for a few years, have been expected to be in proportion to the number of investigators engaged in the work. Powell's work established clearly the existence of both π and μ mesons, and the mother-daughter relationship between them. Between 1946 and 1949, a new heavy meson designated by the symbol τ was reported by several workers in the U.S.S.R., in England and in the U.S. The report supported by the most definite evidence was that of N. Wagner and D. Cooper of Maryland university.

The various types of charged mesons are distinguished by the linear densities and the variations of linear densities of developed photographic grains along their tracks; and these differences are interpreted in terms of the different masses and energies of the particles. According to the best recent determinations, π and μ (primary and secondary) mesons have masses 286 and 205 times as great as the electron's mass. The τ meson was found to be much heavier—720 times the electron's mass—but, apart from the fact that it might, at the end of its range, be captured by a nucleus which then exploded or alternatively might end its travel without evidence of being captured, little was learned of its properties. It appeared to originate among the explosion products of a nucleus disintegrated by cosmic-ray action. No family connection of the τ with π and μ mesons was indicated; but if such a connection should exist, its nature might not be determined until an answer had been found to the question whether mesons occur with definite masses or with a continuously variable range of masses.

Terrestrial Magnetism. According to a first approximation, the magnetic qualities of the earth are those it would possess if it were a "uniformly magnetized sphere." There seems also to be no doubt that the magnetic field that is measured at or near the earth's surface originates from sources inside the earth rather than from any happenings in space outside the earth. The next step in a proper understanding of the earth's magnetism—an explanation of the extent to which the earth's field differs from that of a uniformly magnetized sphere—is one of tremendous complexity. Measurements have, of course, been made of these differences all over the land and oceans, but a satisfactory explanation of their patterns has been elusive. Furthermore, the patterns change slightly in a definite but complex manner from year to year.

Some new ideas on the subject were published during 1949 by E. C. Bullard, director-elect of the National Physical laboratory, England. Discarding the idea of any permanent magnetism, he sought to explain the observed phenomena in terms of large-scale electric currents within the liquid metallic core of the earth. In order that the magnetic effects might be reasonably permanent, it had to be assumed that inside the core of the earth the flow of electricity and the flow of material of which the core is composed must be such as to simulate a self-exciting dynamo, so that the flow of charge created the magnetic field across which liquid metal moved only to have more electric currents induced in it. Such a supposition was eminently reasonable, provided that a source of energy available for maintaining the mass-flow could be identified. Bullard suggested that either (1) the liquid core did not follow faithfully the precessional motion of the earth or what was more likely (2) thermal convection currents existed to carry heat from the core outward. The second of



Part of a paper published by Professor Albert Einstein on Dec. 27, 1949, in which he developed a "generalized theory of gravitation."

these assumptions was partially developed, without serious conflict with established facts, to explain the major part of the earth's magnetic field. Local irregularities in the field and secular changes thereof were then presumed to be the result of two further effects, the occurrence of local eddies in the liquid interior and distortion of the regular field by magnetic materials in the solid crust.

Origin of the Elements. The 96 known elements are not all equally abundant in that part of the universe that is accessible to scientific observation. Striking regularities in quantities appear side by side with striking irregularities. For example, it has been proved that light elements are more abundant than heavy ones and that there is a gradual change in relative abundance from hydrogen (the lightest element) to the heaviest elements, covering a factor of about ten thousand million. At the same time there exist violent fluctuations of abundance from one light element to the next. To illustrate these generalities, it can be asserted that for every atom of gold in the universe, there are ten thousand million atoms of hydrogen, one thousand atoms of fluorine and one million atoms of neon. Since all nuclei are composed of neutrons and protons, it seems clear that these regularities and irregularities of abundances must reflect the manner in which nuclei were originally formed from their constituent elementary parts.

M. G. Mayer and E. Teller summarized the existing situation, calling attention to the probability that light elements may have been formed by thermonuclear reactions, in the course of which new nuclei were built by the addition of protons to already existing nuclei. They emphasized strongly the conclusive evidence that, at the time of formation of heavy nuclei, the proportion of neutrons exceeded that which is now found; otherwise, the heaviest isotopes of the heavy elements would not be the most abundant. They then explored the hypothesis that heavy nuclei were formed by the disintegration of a cold nuclear fluid containing a great excess of neutrons. Considering this as a kind of fission and neutron-evaporation process operating on nuclei much heavier than now exist, Mayer and Teller predicted a theoretical distribution of isotopic nuclei in the range of atomic numbers 62 to 78, that agreed remarkably well with actual observations. In deriving this distribution of abundances among the isotopes of each of a series of elements, the authors pushed the theory one step farther than it had been carried before.

Einstein's Unified Field Theory. Physicists had been for a hundred and fifty years acquainted with effects separately described as electricity, magnetism, light, gravitation. For example, a thunderstorm was an electrical phenomenon, the pointing of a compass toward the north a magnetic one, the scattering of light was optical, the falling of an apple to the ground was gravitational. When they were first discovered, all four types of effects were unrelated—in different compartments of knowledge. Through the work of Michael Faraday, James Clark Maxwell, and others, the fields of electricity, magnetism, and light were brought under one discipline, so that it was known, for example, how the movement of electric charges produces light. Gravitation alone remained isolated, having no apparent connection with electro-magnetic or optical phenomena.

Einstein's new "field theory," announced in Dec. 1949, brought gravitation into the fold, as it were, providing a formal connecting link between gravitational, electromagnetic and optical effects. It was felt that many years might elapse before his theory could be checked by experiment. (*See* also ASTRONOMY; ATOMIC ENERGY; ELECTRONICS; RADIO, SCIENTIFIC DEVELOPMENT IN)

BIBLIOGRAPHY To lead him to more detailed information, the reader should consult *Nature*, vols 163 and 164, London, 1949; *Physical Review*, vols. 75 and 76, New York, 1949. (T. H. O.)

PHYSIOLOGY. Steady progress in the elucidation of the phenomena associated with the nerve impulse continued to be made throughout 1949. In England, A. L. Hodgkin and B. Katz, using a single fibre preparation of the giant axon of the squid, *Loligo forbesi*, with an internal microelectrode, showed that the transient reversal of potential difference during the passage of the nervous impulse was reduced and could even be abolished by decreasing the concentration of sodium ions in the external fluid. Their results were explained on the assumption that the permeability of the membrane during activity was the reverse of that in the resting state. During the passage of the nervous impulse, a large increase in sodium permeability occurred whilst that of potassium was unaffected. The rate of entry of radioactive sodium ions into single sepia axons was found to be about 15 times greater during stimulation than at rest.

Interruption, *in situ*, of the blood supply of the nerve to the tibialis anticus muscle of the cat for periods up to six minutes caused an increase in the irritability of the nerve. Restoration of the blood supply at the height of this irritability resulted in a return to its initial value in about three minutes. When the ischæmia continued for more than ten minutes, the irritability fell below the initial threshold value. Occasionally an apparently complete restoration of the circulation produced complete recovery in 30-50 min., but not always.

Pain. The intensity of the pain felt in the first, second and fourth stages of child-birth was measured in 13 normal deliveries. The method consisted essentially of comparing the intensity of a spontaneous pain with one induced on the dorsum of the hand by thermal radiation. Before labour, the subject was accustomed to the measurement of the pain threshold and the assessment of varying intensities of pain. In the first stage of labour, the intensity of pain was roughly proportional to the degree of cervical dilation and inversely proportional to the length of the interval between the uterine contractions. Pain of maximal intensity was felt at the end of the first and throughout the second stage. The reactions of the woman did not always correspond to the intensity of her pain perception.

Gastric Secretion. The effect of intravenous insulin on gastric secretion was examined in gastric fistula dogs. Secretion began when the blood sugar (Folin's microcolorimetric method) fell to 60-80 mg.%. Acid and pepsin secretion reached a peak in 30-45 min. after 0·1 to 0·2 units per kg. of body weight. Larger doses of insulin caused a diminution or inhibition of secretion. Nembutal, ether and morphine in hypnotic doses abolished the gastric secretory response; chloralose inhibited the response unless large doses of insulin were given. No hypoglycæmic gastric secretory response was obtained in anæsthetized or unanæsthetized cats. Decorticate dogs showed a hypoglycæmic secretion. After decerebration a reduced and delayed hypoglycæmic response

was obtained in three animals. Whereas decortication did not modify the motility pattern of the stomach before or during hypoglycæmia, decerebration inhibited spontaneous motility; neither the gastric *tonus* nor the motility of these animals was affected by insulin hypoglycæmia.

Respiration. Pulmonary arterial and venous blood pressure measurements were obtained in the dog, under nembutal, by direct catheterization. Catheterization of the pulmonary veins *via* the right carotid artery was attended by about a 10% mortality. A significant correlation between the mean systemic arterial blood pressure, the mean pulmonary arterial and venous pressures and the cardiac output was noted. In 50 dogs where the mean systemic arterial blood pressure was 100 mm.Hg. or more, the mean pulmonary arterial blood pressure was 17·8 ± 3·6 and the mean pulmonary venous pressure 8·5 ± 4·2 mm.Hg. In 13 human subjects with apparently normal cardiovascular systems, a venous catheter was introduced into a distal branch of the pulmonary artery so as to occlude it. Measurements of the pressure distal to the occluding catheter were recorded. In two subjects with atrial septal defects, in addition a branch of a pulmonary vein was occluded and the distal pressure measured; identical pressures were observed in both occluded arteries and veins and were believed to be close approximations of the true pulmonary capillary pressure. The pulmonary "capillary" pressure averaged 10 mm.Hg. (range 7 to 15); the mean pulmonary arterial pressure averaged 16 mm.Hg. (range 11 to 21).

Bronchospirometric studies in the dog under pentobarbital anæsthesia showed that after ligature of the left pulmonary artery the left lung retained some respiratory function. The capacity of such a lung to absorb oxygen gradually increased with the development of bronchial anastomoses. After four months it was computed that the blood flow in such a lung usually exceeded one litre per square metre of surface area per minute. Twenty-one months after ligation of the pulmonary artery the bronchial circulation of the left lung was insufficient to maintain life on pure oxygen for more than a few minutes.

Simultaneous action potential records from each hemidiaphragm following hemisection of the second cervical segment were used to map the nervous pathways from the respiratory centres to the pool of phrenic motorneurones in the cat and rabbit. Bulbo-spinal fibres of respiratory function descend primarily ipsilaterally but a significant number cross to synapse on the phrenic motorneurones of the opposite side. The crossed fibres are quantitatively less powerful than the uncrossed fibres.

Orthostatic Hypotension. An experimentally produced orthostatic hypotension was produced in the dog under heavy morphine or chloralose-morphine anæsthesia by local cocainization of the floor of the fourth ventricle for 3-5 min. with a 2% solution of cocaine applied on a piece of filter paper. Normal pressor reflexes were obtained except on standing when hypopiesia occurred; respiration was not affected.

Kidney. Simultaneous determinations of the glomerular filtration rate, renal plasma flow and the oxygen content of the right renal vein blood were made in unanæsthetized humans. Under approximately basal conditions the arterial-renal venous oxygen difference in ten normal subjects averaged only 1·42 volumes % (range 1·09 to 1·87), yet the blood flow was such that the average renal oxygen consumption was 16 cc. per min.

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PIECK, WILHELM, German politician (b. Guben, Brandenburg, Jan. 3, 1876), son of working-class parents, started his life as a carpenter and in 1905 became secretary of the International Socialists in Bremen, where he was associated with Karl (Sobelsohn) Radek, the Communist writer born in Poland. In 1906 Pieck was elected to the Bremen city parliament. He went to work in Berlin in 1907 when he became closely associated with Rosa Luxemburg and Karl Liebknecht as a pupil at the Social Democratic party school. In Aug. 1914 Pieck together with the rest of his group of the party dissented from and attacked the Social Democratic party, when they voted the war credits, and carried on an illegal anti-war activity. He was arrested and sent to the front and finally to a punishment company. He deserted and escaped to Holland where he edited an anti-war paper, which circulated secretly in Germany. In Oct. 1918 Pieck returned to Berlin and played a leading part in the foundation of the Spartacus league and in the revolution. Arrested on Jan. 15, 1919, together with Liebknecht and Rosa Luxemburg, he escaped their fate, when they were shot in the Hotel Eden, Berlin. A 14-year period of political legality in the Prussian Diet, the Prussian state council and the Reichstag followed. After a short arrest in 1933 following the Reichstag fire Pieck fled to Moscow where he remained for 12 years, and after the German aggression against the Soviet Union he was a leading member of the Free Germany committee in Moscow. After his return to Germany in 1945 he assumed leadership of the Communist party and became chairman of the Socialist Unity party, the new amalgamation of the Communist party with extreme left Social Democrats. On Oct. 11, 1949, he was elected president of the Communist-dominated German Democratic republic in the Soviet zone of Germany. (D. A. Sn.)

PIGS: *see* LIVESTOCK.

PIUS XII, the 262nd successor of St. Peter in the see of Rome (b. Rome, March 2, 1876, as Eugenio Pacelli), was elected by the cardinals in conclave in 1939 on his 63rd birthday, and was crowned as pope on March 12. (For his early life see *Encyclopædia Britannica* and *Britannica Book of the Year 1949*).

In 1949, in a speech to delegates of the International Catholic Employers association, Pope Pius urged closer collaboration between management and labour. He told employers that "workers should be assigned a fair share of responsibility in the development of the national economy" and urged them to adopt an enlightened social policy in the interest of collectivity as a whole. He urged Belgian workers, who made a pilgrimage to Castel Gandolfo in Sept. 1949, to draft a "statute of public law and economic life." This was suggested because of the temptation to misuse the power of

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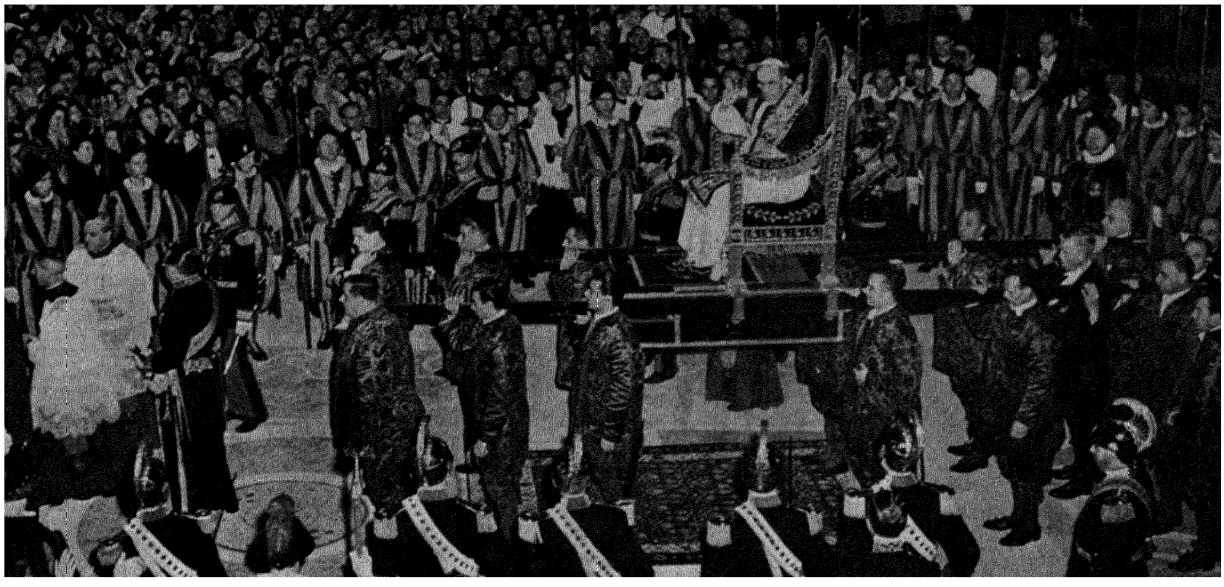


Pope Pius XII, surrounded by the Papal guard, being carried to St. Peter's, Rome, in Dec. 1949, to celebrate the 50th anniversary of his ordination as a priest.

trade unions. He made it clear that trade unions had the blessing of the church provided they seek to " promote the Christian order in the labour world." A group of visiting businessmen were told by the pope the Catholic Church approved of nationalization of industry within certain limits.

In speaking to members of the U.S. senate military appropriations sub-committee on Nov. 17, the pope advocated re-armament, making a very careful distinction between force as an instrument for the enslavement of peoples and force as a means to resist aggression. In his Christmas message he called upon all Protestant Churches to " return to the unity of Rome," and urged all Christians as well as Jews to support the Roman Catholic Church in the creation of a united front against militant atheism. (*See* also ROMAN CATHOLIC CHURCH; VATICAN CITY STATE.) (J. LAF.)

PLAGUE. Progress in the control of epidemics of plague, and in protection against this infection, was reflected in the recommendations of 20 specialists who conferred in Washington, D.C. in Oct. 1948, and at a sanitary convention at Paris in November. They decided that search for previously unrecognized zones of enzootics should be continued; and, because of the widely spread use and efficacy of insecticides such as D.D.T. (dichloro-diphenyl-trichlorethane), international prophylactic procedures could be reduced. They recommended a more intense comparative study of the relative values of immunizing vaccines prepared from killed bacilli or from live organisms, and the designation of laboratories of world-wide distribution for the conservation and supplying of strains of bacilli of tested antigenic value; and suggested recommending prophylactic treatment with sulphamides, or with streptomycin in cases of pneumonic plague particularly, in the belief that such measures would at least reduce the period of observation on contacts.

Though no large epidemics were registered during 1949 plague continued to smoulder on; cases were reported in Asia, including sections or provinces of Burma, China, India, Indo-China, Java and Thailand; in Africa, including Belgian Congo, Cape Colony, Madagascar, Orange Free State, Rhodesia and Tanganyika; in the Azores; in South America, including Brazil, Peru, Venezuela; in the United States, where two cases occurred in the state of New Mexico.

Another survey was made of the extent and persistence of the infection among the field rodents of the western United States by examination of fleas collected from rodents which were shot or trapped, or taken from their burrows and nests. The results of the investigation indicate that the enzootic has persisted or recurred over periods as long as 10 years. Infected fleas were found in counties of midwestern states, which might indicate an extension of the enzootic zone eastward to more populous areas.

The longevity of *Pasteurella pestis* under favourable conditions may be of practical significance through its transportation in fleas hidden in cargo. Under suitable laboratory environment it will remain viable and retain its virulence for years. A set of 40 slope cultures of virulent bacilli was made on beef infusion agar in 1923. The tubes were stoppered with corks coated with a mixture of paraffin and vaseline and stored at temperatures of from 5° to 10°C. Subcultures were made in 1943 and from 33 of the originals growth was luxuriant. In 1948 25% of the originals were alive, and inocula made from their subcultures produced febrile reactions in guinea pigs. Three of these which died contained lesions typical of acute plague with bacilli in spleen and buboes. The reactions of the subcultures in carbohydrate media were the same as those of the originals.

With the extension of the use, in ship quarantine, of sodium fluoracetate (1080) as a poison by ingestion for the destruction of rats, or in other anti-rodent measures, the question arose of the likelihood of invalidating the diagnosis of plague in rats presumably poisoned and found dead. The diagnostic procedure is that of reproducing the disease in guinea pigs by injecting them subcutaneously with a saline suspension of triturated bits of the liver and spleen of the suspected rat. A preliminary test was made with rats found dead after the use of the poison (1080) on ships. Guinea pigs injected with the suspensions of rat liver and spleen remained well, but others injected with the stomach contents of the rats developed convulsions within an hour, and died. A guinea pig which was inoculated with a virulent culture of *P. pestis* became febrile in two days with manifestations of plague. It was then poisoned by feeding it with 1080; 35 min. later it had developed convulsions, and died. Upon autopsy it exhibited lesions of acute plague, which were borne out

by subsequent animal inoculation and by cultural methods. Tests in vitro of the poison revealed no bacteriostatic action on growth of the bacillus in cultures.

The procedures, in practice, for the limitation of human infection and for the control of epidemics in endemic areas continued to be those of destruction of the local rodents and their fleas. These measures had been effective if accomplished with thoroughness over prolonged periods. Such widespread programmes were impracticable in large sections of the world, however, and the prophylactic inoculation of people with plague vaccines became regarded as the best preventive measure practicable.

The prophylactic value of any vaccine is challenged by the virulence of the organism against whose invasion the protection is designed. The determination of virulence is usually accomplished by repeated, painstaking, comparative laboratory tests on animals. It is evident that simpler tests are desirable either to replace or to curtail supplementarily this costly method, and investigation was directed in 1949 towards the discovery and measurement of some chemical reaction of *P. pestis* which is allied to its virulence. This seemed to have been accomplished by the measurement of its catalse activity, which was determined by its ability to decompose hydrogen peroxide. (N. E. W.)

PLASTICS INDUSTRY. Considerable progress was made during 1949 towards increasing raw material production. The new Imperial Chemical Industries' plant at Wilton, near Middlesborough, was inaugurated in September and two plants started, one for the manufacture of phenolic resins, the other for Perspex—polymethyl methacrylate sheet. The construction of the plant for the cracking of petroleum oils to produce simple unsaturated compounds, such as ethylene for polythene and propylene for acetone and thus Perspex, proceeded.

Petrochemicals, Ltd., announced that five of the furnaces in its cracking plant had begun working and that benzene, toluene, xylene and methyl naphthalene were available. These resulted from the new Catarole process which converted straight chain hydrocarbons into ring compounds. It was noteworthy that these ring compounds were free from thiophene present in coal tar benzene and toluene; ethylene, ethylene glycol, propylene oxide, propylene glycol and other derivatives were also produced at these works. In the same field should be mentioned the decision to erect at Grangemouth, Scotland, with Marshall aid funds, yet another petroleum-chemical plant to be operated by British Petroleum Chemicals, Ltd., owned jointly by Anglo-Iranian Oil company and the Distillers' company.

Plastic machinery production progressed rapidly. Significant was the production by R. H. Windsor, Ltd , under the L.P.M. (Italian) patents, of an extrusion machine which used a multi-screw extruder and was exceptionally flexible in output. The one machine could compound, colour and pellet the raw material, extrude it in a variety of forms, including a tube with a soft inner wall and a hard strong outer wall, or a ten in. tube which could be slit automatically to form a sheet 30 in. wide. A. C. Wickman, Ltd., introduced another machine, the new H.P.M. for injection, into this country from the U.S.A.; it could inject automatically into a mould two streams of differently coloured plastic material, thereby eliminating much tedious and laborious post-moulding work. In the mould-making field B.I.P. Tools, Ltd., announced an exceptionally important process for casting high-precision moulds. High fidelity results, the avoidance of much machining and rapidity of production were promising features. A two-colour injection plant was being produced and a very versatile extrusion press capable, for example, of extruding a 12-in. diameter tube of thermoplastic which could be slit automatically to produce a 36-in. sheet was now being manufactured. Two of these machines working in conjunction could produce two concentric tubes, each of different hardness. Finally, of exceptional importance to thermosetting resin moulders, the prototype of a new control unit capable of converting a hydraulic press to a highly automatic type was tested successfully. It would be in production in 1950.

Some of the most noteworthy productions of plastic units were for the engineering field. One was a stud-welding pistol containing a solenoid control—the phenolic moulded structure being essential as an insulator. This was moulded by Ashdowns, Ltd., of St. Helens, for Crompton Parkinson, Ltd. A second was a large baseplate weighing 31 lb. moulded by Aeroplastics, Ltd., for a G. and J. Weir refrigerator motor-compressor. A third moulding which entailed exceptionally close tolerance work was the highly praised 14½ in. grid ring with 180 radiating teeth, moulded by British Moulded Plastics Ltd. for Mellor Bromley and company. Pontefract Box company developed a new type of packaging for the chemical industry. This was a resin-treated wood waste moulded in two halves so that bottles; *e.g.*, Winchester quarts or sample bottles, fitted snugly in the bottle-shape moulded recesses. Details were given of the all-wood construction of the Healey-Duncan motor car utilizing " Aerolite " synthetic resin as a bond.

The low-pressure resins of the poly-ester type were introduced by I.C.I. and Scott Bader and company. They were exceptionally valuable and found especial use for bonding glass fibre to produce very high-strength structures of great heat resistance.

Thermoplastics generally progressed. Un-backed and fabric-backed polyvinyl chloride sheet improved in quality and embossed design, and found a ready market in the handbag industry. The motor industry began using this leather-like material for seating. 1949 also saw the introduction of the highly polished form for evening shoe uppers. Stiff p.v.c sheets were now employed in the printing industry as an intermediary in block making.

In 1949 the plastic bottle for general use was manufactured. Made from p.v.c. paste or polythene by blowing or variations of blowing from tube, they opened up new possibilities. Polythene lay-flat tube was introduced by I.C.I. especially for the packaging industry with special stress on the deep freeze process of preserving foods. Nylon was available for the first time for moulding purposes. Casceloid, Ltd., installed a Trans-Bo-Matic machine capable of producing 1,000 cellulose acetate containers per hr. Eight hundred feet of polythene piping were laid in Scotland for farm water supplies.

In the Commonwealth, Australia reported that cellulose acetate would be undertaken by Colonial Sugar Refining company of Sydney and Beetle Elliott, Ltd., of Sydney announced that production of their moulding powders would be about 500 tons annually.

The All-India Plastics Manufacturers association was formed and did excellent work in unifying production, discussing technical problems and advancing the plastics industry in India. There were now about 150 injection machines in the country, mostly devoted to fancy goods. There were also a number of extrusion presses making knitting needles, extruded strips for bags, watches, etc.

(M. D. Cn.)

United States. The consumption of U.S. plastics materials of all kinds in 1949 increased by more than 50% over 1946, the first postwar year in which relatively exact figures for the industry were made available.

Phenolics. Consumption and sales of phenolics rose rapidly, reaching 15 million lb. monthly by the end of 1949. Another possibility in developing increased use for

Usmania ...
HYDERABAD (DECCAN).



A selection of modern electrical equipment made in plastics.

phenolic moulding powder was in combination with rubber, although progress was disappointingly slow.

Vinyl. Vinyl chloride and vinyl chloride copolymer resin compounds led all other plastics in production with a 1949 volume in the neighbourhood of 300 million lb. The biggest outlet for vinyl in 1949 continued to be film for drapes and curtains, raincoats, shower curtains and protective coverings for items ranging from typewriters to cars in transit and butchers' aprons.

Polystyrene. Polystyrene moulding powder sales rose from 66 million lb. in 1946 to nearly 180 million lb. in 1949. New uses for styrene monomer were constantly being discovered so that an adequate future supply was problematic.

An improved moulding technique was only partly responsible for the advances made by polystyrene. Without altering physical properties, producers were able to formulate better compounds by employing improved compounding methods and adding new types of lubricants.

Cellulosics. A total of approximately 60 million lb. of cellulose acetate was sold in 1949 as compared with an 80 million lb. record in 1946. Flame-resistant acetate which, because of its high impact strength, was particularly adaptable for housings of electrical appliances was widely used. A higher heat-resistant acetate was developed which could withstand numerous boilings without undue distortion.

Urea and Melamine. The consumption of melamine resin increased from 17 million lb. in 1947 to 24 million lb. in 1948, and since melamine moulding powder for dishware alone was used at a rate of several hundred thousand lb. during the year, the increase in 1949 was undoubtedly substantial. The improved powder was of more uniform bulk and granulation so that there was less scrap loss and fewer rejects.

Saran. Saran monofilament was chiefly used for woven car seat covers in 1949. Woven saran upholstery material was also being tested as upholstery for seats in vehicles, public seating for both indoors and outdoors and home and hotel furniture.

Polyethylene. About 31 million lb. of polyethylene were produced in 1949 and used in a variety of applications ranging from disposable baby bottles and lollipop sticks to heavy jacketing for telephone cable. Electrical uses for polyethylene were still taking a large quantity of the output for such purposes as insulation in high-frequency wiring and co-axial cable.

Nylon. Wire coated with nylon had innumerable uses, particularly because of its resistance to abrasion and fungus as well as to heat. The use of nylon as a monofilament for brush bristles, fishing leaders and sutures was well established and growing. (C. A. BN.)

PNEUMONIA. With the introduction of the sulphonamides and later penicillin, a great step forward was made during 1949 in the treatment of lobar pneumonia. The improvement was reflected not only in the improved mortality figures, but also in the clinical condition of the patient immediately one of these drugs was used. From being a disease which ran a very well defined course with characteristic symptoms and signs, lobar pneumonia was reduced to a febrile incident in which lung consolidation might or might not occur. Consequently interest was now focused on the treatment of atypical cases of pneumonia or on details of the administration of either the sulphonamides or penicillin in cases of lobar pneumonia.

Atypical pneumonia is a relatively benign disease and probably is not one clinical entity but a grouping together of various diseases of different ætiology. Many cases were thought to be due to virus infection. One article, " Treatment of Atypical Pneumonia with Aureomycin," Emanuel B. Schoenbach and Morton S. Bryer, *Journal of the American Medical Association* (Chicago, Illinois, Jan. 1949), claimed beneficial results from the use of aureomycin in the treatment of atypical pneumonia but this claim did not bear very close scrutiny and no proved effective cure for this disease was found. Failure to find an effective drug is of no great moment when considering a mild disease such as atypical pneumonia; but the application of such a drug, if found, to other and more serious virus diseases would be of great interest and possibly lasting beneficial result to the human race.

Other authors who dealt with the dosage of penicillin and the sulphonamides in ordinary bacterial pneumonia were: Robert Buckhouse, Mark H. Lepper, Thomas E. Stone and Harry F. Dowling, " The Treatment of Pneumonia and Other Infections with a Simple Sulphonamide Gantrosan (NU-445; 3, 4-Dimenthyl 5-Sulfanilamido-Isoxozole)," *American Journal of the Medical Sciences* (Philadelphia, Pennsylvania, Aug. 1949), and Morton Hamburger, Jerome Berman, Robert T. Thompson and M. A. Blankenham, " The Treatment of Pneumococcal Pneumonia by Penicillin in Aqueous Solution at Long Intervals," *Journal of Laboratory and Clinical Medicine* (St. Louis, Missouri, Jan. 1949): and one point of interest emerged. It was stated by these authors that one large injection of aqueous solution penicillin every 24 hr. was just as effective as that divided into more frequent doses.

Combined penicillin and sulphonamide medication came in for some adverse criticism in an article based on such small series of cases that any conclusions could not be considered to be reliable. The results of research by Italo F. Volini, James R. Hughes, and J. R. Peffer were published in an article: " A Comparative Study of Sulfadiazine, Penicillin and Penicillin combined with Sulfadiazine in the Treatment of Lobar Pneumonia," *Diseases of the Chest* (vol. 15, no. 3, March 1949, American College of Chest Physicians). The effect of the article was further damaged

by carelessness in compiling the various tables. The mortality for cases treated with intra-muscular penicillin in Table IX was given as 1·9% (*i.e.*, one case) but in Table X under intra-muscular penicillin two deaths were recorded—one from empyema and the other from lung abscess. (F. P. L. L.)

POLIOMYELITIS: *see* INFANTILE PARALYSIS.

POLAND. A people's republic of eastern Europe bounded on the east by the U.S.S.R., on the south by Czechoslovakia, on the west by Germany and on the north by the Baltic sea. Area: (before Sept. 1, 1939) 150,052 sq. mi., (after Aug. 2, 1945) 120,359 sq. mi.—a reduction by one-fifth, the result of the annexation of 68,667 sq. mi. by the U.S.S.R., and of the establishment of a new western frontier along the rivers Oder and Neisse which, together with the partition of East Prussia between Poland and the U.S.S.R., gave Poland an area of 38,974 sq. mi. Pop.: (before Sept. 1, 1939) 35,339,000, (Feb. 14, 1946, census) 23,929,757, (Jan. 1, 1948, est.) 23,781,077. A large migratory movement and great changes in the composition of the population took place which may be summarized as follows:

(1) The total population of the eastern Poland area annexed by the U.S.S.R. was 10·7 million, including some 3·9 million Poles, of whom about 1·5 million were deported to the Soviet forced labour camps in 1939-40; by June 30, 1949, only 1,503,816 Poles had returned from the east, including 263,966 who had been deported to the interior of the Soviet Union; also by mid-1949, 518,219 Ukrainians, Byelorussians and Lithuanians were transferred from Poland allegedly to their respective Soviet republics.

(2) The total population of recovered territories in the west (including the Free City of Danzig) was in 1939 about 8·3 million, including 1,011,700 Poles; by mid-1949 about 7·9 million Germans living east of the Oder-Neisse frontier, including 800,000 in pre-1939 Poland, had left for Germany (half of them had fled to the west during 1944-45 before the advancing Soviet armies); some 250,000 remained.

(3) Of 3 million Poles who by the end of 1944 were numbered among forced labourers, prisoners of war and inmates of concentration camps in Germany, 2,272,000 had returned to their country; one half of the remainder had been shot or gassed or had died of exhaustion, and the others had been unwilling to return to a Soviet-dominated country. The number of Polish war losses (forces only) was estimated at 218,000. In 1936-38 Poland's annual population increase was 385,000; no vital statistics were available for the war years, but in 1947 live births were 22·7 per 1,000 and the mortality rate was 11·2 per 1,000, which suggested an increase of population of 265,000.

(4) In Sept. 1939 Poland had 3,351,000 Jews, including 899,000 in the area annexed by the Soviet Union in 1939; about 300,000 either were deported to the Soviet Union or voluntarily sought refuge there, and 200,000 survived. With the exception of 60,000 hidden by the Poles, all Jews found in Poland by the Germans were killed by them.



The new east-west thoroughfare in Warsaw which was inaugurated on July 22, 1949. Inset picture shows Boleslaw Bierut, president of the republic, cutting the tape during the ceremonies to mark the occasion.

Chief towns (pop., first figure est. Sept. 1, 1939; second figure est. Sept. 1, 1948, if not otherwise stated): Warsaw (*q.v.*, cap., 1,289,000; [Sept. 1, 1949] 630,024); Łódź (672,000; [July 1, 1949] 615,000); Cracow (259,000; 307,400); Wrocław or Breslau (625,000; 299,000); Poznań (272,000; 297,000); Szczecin or Stettin (272,000; [July 1, 1949] 185,000); Gdańsk or Danzig (235,000; 164,000); Katowice (134,000; 163,000). Language: almost exclusively Polish. Religion: overwhelmingly Roman Catholic. President of the republic, Bolesław Bierut (*q.v.*); prime minister, Józef Cyrankiewicz (*q.v.*).

History. The year was marked by the fulfilment of the first three-year plan of economic rehabilitation. In a speech on Nov. 11 before the central committee of the United Workers' (Communist) party, Bolesław Bierut, its chairman, announced that if the 1938 production figures were taken as 100, the index numbers for 1949 were as follows: total value of industrial production 174, industrial output per head of the population 244. For agricultural production Bierut said only that between 1946 and 1949 crops had increased by 62% and livestock by 81%, which, however, when compared with 1938, would mean that crop production per head stood in 1949 at 115 and meat and dairy products at 105.

Bierut was, of course, comparing the production of two different areas. To obtain a clearer picture of Polish achievements in the field of economic rehabilitation it must be remembered that the territorial shift to the west on the whole considerably increased the country's industrial production capacity, except in regard to petroleum, of which three-quarters of the production were lost. In 1938 Poland mined over 38 million metric tons of bituminous coal; in the formerly German part of Silesia prewar production amounted to 31 million tons; as the total Polish coal production in 1949 was estimated at 72 million tons, the actual increase was 4%. The prewar production of steel was 1·4 million tons in 1938; in the same year the recovered territories produced 0·9 million tons; as Polish production in 1949 was estimated at over 2·2 million tons the prewar level was reached. Another sign of increased industrial potentiality was the output of electric power: in 1938 Poland produced 3,977 million kwh.; its loss in the east amounted to 211 million kwh., its gain in the west to 2,609 kwh.; as the actual production in 1948 was 7,512 million kwh., the increase achieved was over 19%.

Agriculturally Poland had lost in the east rather poor areas, while in the west it gained highly-developed agricultural lands. But by 1949 production was still lagging behind the 1934-38 averages, the total bread grain production being 79%, oats 72%, potatoes 88% and sugar-beet 90%. This is shown by the following table:

POLAND'S AGRICULTURAL PRODUCTION
(in '000 metric tons)

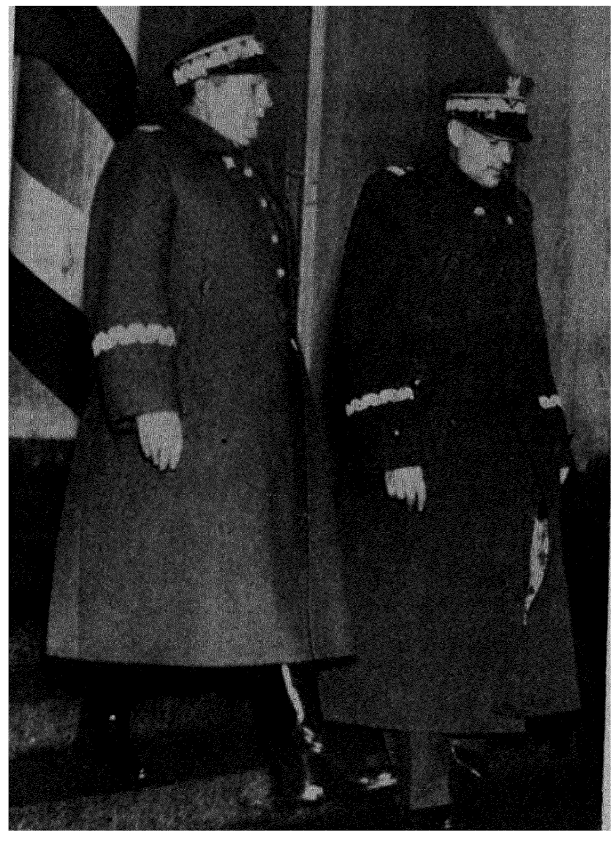
	Prewar crops*	Losses in the east*	Gains in the west*	Total Production in 1949	
				Possible	Estimated
Wheat	2,171·9	956·3	997·5	2,213·1	1,814·7
Barley	1,371·3	498·1	815·5	1,688·7	1,050·4
Rye	7,253·4	2,048·7	2,763·6	7,968·3	6,493·0
Oats	2,656·5	988·6	1,761·4	3,429·3	2,473·0
Potatoes	34,558·2	11,434·1	13,985·1	37,109·2	32,629·0
Sugar-beet	3,162·4	420·9	2,010·2	4,751·7	4,226·4

* Annual averages for 1934-38.

Calculated per head of the population, the bread grain (wheat, barley and rye) production fell from 317 kg. in 1934-38 to 169 kg. in 1946 and in 1949 reached 390 kg., instead of a possible 495 kg. The production of potatoes was 1,016 kg. per head before the war, 779 kg. in 1946 and 1,358 kg. in 1949, instead of a possible 1,546 kg.

In the new six-year plan starting in 1950 Poland was expected to reach by 1955 a production of 90 million tons of coal, 7 million tons of steel (a threefold expansion in comparison with 1938), 23,500 million kwh. of electric power (almost four times as much as in 1938). By 1955 Polish industry was to produce annually 12,000 tractors and 18,000 motor vehicles, but plans for consumption goods were on a more modest scale: the 1955 targets for cotton and wool yarn were 137,300 and 49,500 metric tons respectively, which meant only a 77% increase for cotton and 45% for wool. It was not expected that the agricultural output in 1955 would exceed the 1938 levels (described as possible in the table). If collectivization were forcibly introduced not only the 1938 levels would not be reached by 1955, but there would be a decrease from the 1949 production volume. This probably explains why by 1949 there were only 170 collective farms covering less than 1% of the arable land. Hilary Minc (*q.v.*), deputy prime minister, chairman of the economic committee of the council of ministers and chairman of the State Planning commission, explained on Nov. 18 in an article published by the Cominform journal, that planning in the people's democracies was not and could not be something mid-way between "capitalist anarchy" and Soviet planning: it was Socialist planning which, in its class essence, was of the same type as Soviet planning. Collectivization, therefore, was only postponed; for the time being the Communists were cautious with the peasants (*see* PEASANT MOVEMENT).

Similar caution marked the regime's policy towards the Roman Catholic Church which in Jan. 1949 was organized in 5,977 parishes with 22,799,000 practising faithful. Mgr. Stefan Wyszyński, archbishop of Warsaw and Gniezno and primate of Poland, together with Cardinal Adam Sapieha, archbishop



Marshal Konstantin Rokossovsky (right) leaving the Sejm building in Warsaw shortly after being appointed commander in chief of the Polish army. With him is Marshal Michal Żymierski.[1]

[1] This photograph shows Polish officers wearing for the first time round caps instead of the traditional square ones.

of Cracow and 22 bishops and apostolic administrators, in a pastoral letter read in all churches on April 24, affirmed that the Church had never used its influence to the prejudice of Poland. As to the allegations made on March 14 by Władysław (Piwowarczyk) Wolski, minister of public administration, that the Church's attitude towards the state was one of growing hostility and that many of the clergy were "playing the game of Anglo-American imperialists," the pastoral letter commented that it would be difficult to persuade anyone that the clergy represented foreign powers hostile to Poland. It asked the people, especially the young, to take no part in atheistic meetings. Publication of this letter was forbidden in even the Catholic press. So also was that of a letter addressed to the archbishops and bishops of Poland by Pius XII on the occasion of the 10th anniversary of the invasion of Poland in which the Pope complained of the destruction of Catholic associations, of difficulties put in the way of religious education and in that of the external manifestations of Catholic life, of "vicious" censorship of the Catholic press, and of interference with the exchange of letters between the Holy See and the Polish hierarchy and prevention of other contact between them.

Although the trouble which had been fomenting between the Church and the government did not come to a head, many trials were staged at which priests "confessed" to being encouraged by their bishops to burn portraits of President Bierut hanging in Catholic schools (as in the case of Fr. L. Pietroszek, who in court at Katowice denied his confession), to join the underground resistance groups (as in the case of Fr. W. Gurgacz condemned to death in Cracow), or to murder the Communist leaders (as in the case of Fr. W. Ortotowski and Fr. M. Łosoś, both sentenced to death at Łódź). At the same time attempts were made to oppose the clergy to the bishops. On Sept. 1 Bierut received a delegation of priests who attended the Fighters for Freedom congress in Warsaw (*see* EX-SERVICEMEN'S ORGANIZATIONS). One priest, Fr. B. Grim, said that he and his friends "felt disturbed because the hierarchy had taken certain steps and they, the rank and file, had come to ask the president to help them." Bierut replied that talks between the government and the hierarchy were going on and that the government would do everything in its power to bring a settlement. The chief difficulty, he added, lay in the unfriendly attitude of the hierarchy who encouraged the clergy to make political use of the churches, harmful practices which sooner or later would have to end. (*See* ROMAN CATHOLIC CHURCH.)

The Moscow policy, adopted in 1944, of appointing Soviet officers to all key posts in the army of strategically the most important European satellite state was crowned in 1949, when the Soviet government put at the disposal of Poland Marshal Konstantin Rokossovsky (thenceforward Konstanty Rokossowski). On Nov. 6 he was accorded by decree Polish citizenship and rank of marshal in the Polish army, and was appointed minister of national defence and commander in chief of the Polish forces in succession to Marshal Michał (Łyżwiński) Żymierski. With Rokossowski's appointment all important army posts were in the hands of officers who had made their military career exclusively in the Soviet army, although some were of Polish descent. The Polish army was believed to consist of 6 army corps,[1] 16 infantry divisions, 3 artillery brigades, 10 armoured regiments, 5 pioneer regiments and 6 signal regiments, totalling in all 250,000 men. There were also 11 brigades of W.O.P. (Wojska Ochrony Pogranicza, or Frontier Guard Troops) and 18 regiments of K.B.W. (Korpus Bezpieczeństwa Wewnętrznego, or Home Security Corps) under the command of Stanisław Radkiewicz, minister of public security. In his first order of the day on Nov. 7 Rokossowski commanded the Polish army to protect Poland, its independence and sovereignty, to guard its boundaries on the Oder-Neisse line and the Baltic sea and to tighten brotherly relations between Poland and the U.S.S.R.

On Nov. 15 it was announced that Rokossowski had been co-opted as a member of the central committee of the Communist party, and that Władysław Gomółka, Marian Spychalski and Zenon Kliszko were expelled from the central committee and forbidden to be in charge of any state or party office. Though Gomółka had been relieved of his duties as deputy prime minister and minister of the recovered territories in Aug. 1948, after public recantation of his "Titoist deviation," he was appointed vice-chairman of the Supreme Control and Audit office. In Oct. 1949, however, an article by Edward Ochab in the Communist monthly *Nowe Drogi* (New Ways) accused Gomółka of "building a wall of mistrust between Poland and the Soviet Union." Spychalski, former deputy minister of national defence, and Kliszko, former chairman of the parliamentary group of the Communist party, both friends of Gomółka, were accused of enabling enemy agencies to secure responsible posts and act against the people's democracy. Among many high officials arrested was Józef Dubiel, former deputy minister of recovered territories and another friend of Gomółka. According to Bierut himself, Dubiel had already confessed to having been a Gestapo agent during World War II.

Education. (1949) Schools: kindergarten 5,239, pupils 240,839, elementary 22,133, pupils 3,241,046, secondary, lower grade 335, pupils 197,110, higher (liceum) grade 486, pupils 140,893, secondary vocational 1,131, pupils 183,440; teachers' colleges 149, students 31,000; higher vocational institutions 39, students 16,988; universities (8), technical colleges (5) and other schools of higher education (14), students 92,444. Illiteracy (mid-1949 est.) 1,100,000.

Agriculture. Main crops (in metric tons, 1948) wheat 1,620,300; barley 1,010,080, rye 6,304,040; oats 2,401,860; potatoes 26,755,860. Livestock (mid-1949 est.) cattle 6,380,000; horses 2,561,000, pigs 5,181,000, sheep 1,622,000. Sugar, raw value (1948) 681,000 metric tons. Fisheries: total catch (1948) 48,328 metric tons; (1949, six months) 34,800 metric tons.

Industry. Industrial establishments (Jan. 1948) 184,334, including 6,668 state-owned; persons employed 1,867,540, including 1,318,385 (April 1949 1,411,198) in state enterprises. Fuel and power (figures for the first six months of 1949 given in brackets throughout): coal (metric tons, 1948) 70,360,000 (35,943,000), manufactured gas (million cu. m., 1948) 285.8 (153.8); natural gas (million cu. m., 1948 est.) 160, electricity (million kwh., 1948) 7,512 (3,700); crude petroleum (metric tons, 1948 est.): 132,000. Raw materials (metric tons, 1948): pig iron 1,080,000, steel ingots and castings 1,860,000 (1,131,000), lead 18,500, zinc 120,000. Manufactured goods (metric tons, 1948): cement 1,824,000 (1,092,000); cotton yarn 81,960 (43,970); wool yarn 33,240 (18,760); rayon yarn 7,080 (4,310); artificial fertilizers 580,400 (378,000).

Foreign Trade. Value (official estimates published in Warsaw in million U.S. dollars, 1948; 1949, six months, in brackets) imports 509 (265), exports 528.7 (276). Weight (in '000 metric tons, 1948; 1949, six months, in brackets): imports 4,431·9 (2,347.4), exports 32,094·3 including coal 24,752.5 (18,156·1 including coal 14,298.4). In 1948 the exchange of goods between Poland and the U.S.S.R. reached $230 million and between Poland and other people's democracies $130 million.

Transport and Communications. Railways (Jan. 1948): 21,415 km.; freight traffic (in million metric tons-km., 1948; 1949, six months, in brackets): 28,188 (14,832); passenger traffic (in million passenger-km., 1948; 1949, six months, in brackets). 19,848 (9,060). Roads (April 1947): 96,605 km.; licensed motor vehicles (April 1948): cars 24,240, lorries 28,957, motorcycles 24,561. Shipping (May 1949): merchant vessels 46, total tonnage 164,989 B.R.T. Freight traffic in Polish ports (metric tons): (1947) Gdańsk-Gdynia, imports 2,797,700, exports 6,892,800; Szczecin, imports 116,900, exports 609,400; (1948, total imports and exports) Gdańsk-Gdynia 12.7 million, Szczecin 3·2 million. Air transport (1948): Polish airlines, flights 7,730, km. flown 2,363,200, passengers flown 77,522, cargo carried 900·3 metric tons; foreign aircraft, flights 1,221, passengers flown 6,960, cargo carried 536.6 metric tons. Telephones (Jan. 1948): subscribers 137,400. Wireless licences (July 1949): 1,054,551 including 335,489 home loudspeakers.

[1] Until Nov. 1949 there were six military districts as follows: I. Warsaw, II. Bydgoszcz, III. Wrocław, IV. Poznań, V. Cracow and VI. Lublin. It was believed that Rokossowski would suppress the Poznań and Lublin commands. Of the district commanders only General Stefan Mossor (Cracow) had served in the Polish army before World War II. The other commanders, as well as General Władysław Korczyc, chief of staff, were Russians of Polish origin who had made their military careers in the Soviet army.

Finance and Banking. Budget (in million złoty): (1949 est.) revenue 612,058, including 349,700 from public contributions (229,400 from turnover tax), 125,257 from state enterprises and establishments, 61,700 from investments, etc.; expenditure 612,058, including 331,758 for administration and 280,300 for capital and investment expenditure. Currency circulation (Dec. 1948, last figure published): Zł.128,800 million. Deposit money (Dec. 1948): Zł.150,300 million. Monetary unit: *złoty*. Exchange rates (after Sept. 18, 1949; previous rate in brackets): official £1 = Zł.280 (403), premium £1 = Zł.1,120 (1,612); U.S. dollar, official, $1 = Zł.100, premium $1 = Zł.400.

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POLICE. An important event in the history of the British police was the issue in April 1949 of the report of the Oaksey Committee on Police Conditions of Service, although its conclusions caused no great surprise either in official circles or among the general public. The long standing grievances of the police, their increasing duties, long hours of work and the sometimes dangerous tasks they were called upon to perform were well known. The committee's recommendations were quickly put into effect, almost in their entirety. Appointed by the home secretary, Chuter Ede, nearly twelve months before, the committee under the chairmanship of Lord Oaksey had had to review police administration and work as a whole with particular reference to the dissatisfaction that was generally felt about conditions of service. The two main problems were a persistently dwindling police force and a constant increase in the incidence of serious crime. No inquiry on such a comprehensive scale had hitherto been held.

The report recommended increases of pay which, above the existing cost of police pay of about £25 million a year, would cost £3,800,000 to £4 million apart from the effect on future pensions, improvement of certain conditions and remedies for many existing anomalies; but it did not satisfy members of the police. Pay scales especially were criticized by experienced officers as being too low to stimulate recruiting, and there was disappointment at the lack of suggestions for the removal of old-standing grievances; nevertheless, those most closely affected by this omission hoped that outstanding matters might be dealt with internally by subsequent negotiation.

The problem of building up an adequate police force, however, still remained to be solved. Special inducements, though substantial, continued to be offset by wastage through normal retirements and the resignation, after relatively short service, of promising young men. This trend was reflected in official statistics (*see* Table I). Disquieting as the discrepancy was in other parts of the country, responsible officials were particularly concerned at the handicap in London caused by well over 4,000 vacancies in an establishment which had remained substantially the same as in 1938.

TABLE I. POLICE STRENGTH, GREAT BRITAIN, DEC. 1948.

	Population	*Authorized* (Male)	*Actual* (Male)	*Pop. per officer* (Male)	*Authorized* (Women)	*Actual* (Women)
England and Wales						
Counties	21,926,983	27,762*	23,801*	790	606*	396*
Boroughs	12,540,800	20,950*	17,288*	599	498*	380*
Metropolitan	8,277,407	19,400	15,333	422	338	223
City of London	4,810	976*	722*	5	—	—
Scotland						
Scottish Counties	2,547,900	2,750	2,558	927	70	44
Scottish Burghs	2,624,600	4,573	4,400	574	88	75

* As at Sept. 1948.



A constable of the Metropolitan police wearing the new tunic with a collar and tie, first issued in 1949.

Women police outside the Metropolitan area numbered 776 against an authorized 1,104, and in London 223 against 338. Every force in England and Wales with two exceptions now had a women's section, and the fact that in most cases they were below strength did not cause undue alarm because it was recognized that the office of a police woman called for distinctive qualities, which necessarily limited recruitment.

On the other hand concern continued to be felt at the shortage of men recruits at a time when the number of serious and violent crimes was mounting. For, whereas in the two decades 1900 to 1919 the annual average of indictable crimes was under 100,000, by 1939 it was over 300,000 and by 1947 nearly 500,000.

Notwithstanding the improved scales of pay and conditions the police forces in both England and Wales and in Scotland continued to diminish during the year. The resignations owing to the offer of more remunerative posts elsewhere of senior officers, especially from detective departments and particularly in London, became a serious matter. Although there was no want of equipment or method in the prevention and detection of crime and the system of wireless communication between the various police forces had become very effective, the protection of the public depended primarily on a police force of adequate strength. (W. A.)

United States. In the United States police forces continued to expand. Their numerical strength rose to the highest level in the nation's history, and this, combined with rising salary scales and pension costs, was reflected in a record total police expenditure. The extent and distribution of the steady enlargement in police manpower is illustrated in Table II.

The number of municipal police killed on duty in the United States totalled 64 in 1948, a slight drop from the 1947 figure. The highest police fatality rates were in the west, south, central and south Atlantic regions; New England cities showed rates less than one tenth as high.

TABLE II.—NUMERICAL STRENGTH OF U S MUNICIPAL POLICE FORCES
(Number per 1,000 Inhabitants)

Population Groups of Cities	1949	1948	1939
Group I—Over 250,000	2 41	2 33	2 19
Group II—100,000-250,000	1 73	1 67	1 47
Group III—50,000-100,000	1 71	1 65	1 36
Group IV—25 000-50,000	1 56	1 50	1 21
Group V—10,000-25 000	1 44	1 37	1 08
Group VI—Less than 10,000	1 35	1 29	1 11
Average police employees per 1,000 inhabitants	1 89	1 83	1 65

The slow but steady rise in municipal police effectiveness during the past two decades was maintained in 1948. But the fact remained that levels of performance were less satisfactory for manslaughter and burglary than they had been in 1941, when the numerical strength of municipal police was about 10% lower.

The International Association of Chiefs of Police held its annual congress in Dallas, Texas, in Sept 1949. About 1,000 police administrators, most of whom represented U S and Canadian police forces, attended (BR S)

POLISH LITERATURE. The most important literary event of the year was the publication by Julian Tuwim of *Polish Flowers*, a long poem of loose composition, written under the marked influence of Pushkin and showing an extraordinary mastery of language and especially remarkable in the richness and variety of its rhythms. An interesting poetical début with a marked individual style was *The Defence of Mists* by Bronislaw Przyłuski (London)

A volume of uneven short stories by Adolf Rudnicki *The Flight from Yasnaya Polyana* was interesting chiefly as a serious attempt at the creation of an individual literary idiom. Good craftsmanship distinguished *Greek Stories* by Anna Kowalska. *The Ties of Life* by Zofia Nałkowska depicted satirically the prewar political élite but was marred by mannerism. Politics was also dealt with in *Between the Wars*, by Kazimierz Brandys, a cycle of novels opposing two worlds, the Communist and the bourgeois; the first two had been published: *Samson* and *Antigone*. *The Iron Curtain* by Halina Boguszewska represented a kind of simplified *unanimisme*, and depicted the life of the average Warsaw family. Karol Bunsch's *The Namesake* was another historical novel on the 11th century, after 1945 a popular one in Polish literature. *The Sacred Sword* by a prolific Catholic novelist Jan Dobraczyński told the story of St. Paul's life.

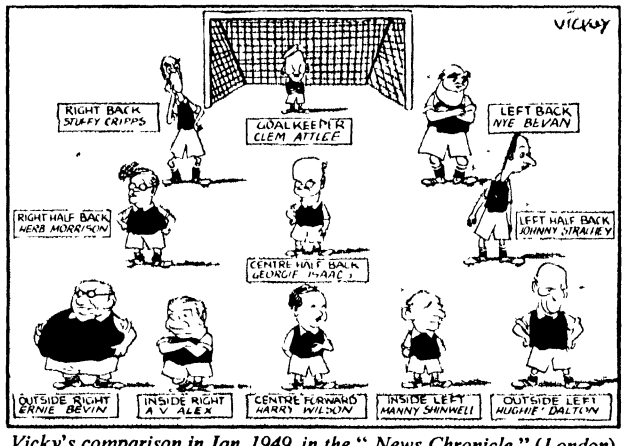
A new development was a literature composed strictly according to Soviet "Socialist realism," with a very simplified psychology and an emphasis on political edification. It had not as yet attained any literary distinction

Two posthumously published dramas by Stanisław Ignacy Witkiewicz, *In a Small Manor House* and *The Cobblers*, were highly original both in form and intellectual content. A dramatic story by Wacław Kubacki, *The Cry of a Sorb-tree*, recreated the Romantic world.

Jan Parandowski published a beautiful volume of reminiscences and critical essays, *Mediterranean Hour*, distinguished as much for the wide literary knowledge it displayed as for its mature classical style. The imposing *Memorial Volume in Honour of Leopold Staff*, the greatest Polish poet of the older generation, published under the joint editorship of J. W. Gomulicki and Julian Tuwim, brought together a number of valuable contributions in poetry and prose. Stefan Kisielewski's *Politics and Art* was a volume of essays by a leading Catholic publicist. Juliusz Kleiner published a three-volume erudite critical study *Mickiewicz*.

Two important volumes were published outside Poland. General Władysław Anders' *Without the Last Chapter*, a book of war reminiscences (the English version was published under the title *An Army in Exile*). Józef Czapski's *On An Inhuman Soil* (published also in a French translation as *La terre inhumaine*) described the wartime Russian experiences of the author; the book was rather diffuse in composition but captivating in its sincerity and humanity. (W. WB.)

POLITICAL PARTIES, BRITISH. Parliamentary by-elections and local elections during 1949 supplied both the main parties with ample material for optimistic speculation about the result of the next general election, but no conclusive evidence of a sweeping change in public opinion. The six parliamentary seats contested between January and December were all held by the Labour party though with reduced majorities. In the county council elections in April the Labour party lost over 350 seats and the Conservatives gained correspondingly. Over 800 Labour seats were lost, mainly to the Conservatives, in the borough elections in May. Conservative satisfaction was tempered, however, by the knowledge that government supporters seldom turn out in full force at local elections. At Westminster the Labour party seemed more secure than ever, at least until the announcement of devaluation in September In May the party executive, by expelling L J. Solley and Konni Zilliacus for consistently opposing the government's foreign policy, administered the final blow to the "Keep Left" movement, which had been the only serious source of dissension among the government back-benchers since 1945. As a further token of his determination not to tolerate even the mildest and most traditional acts of rebellion the prime minister, Clement Attlee (*q.v.*), summarily dismissed three parliamentary private secretaries who had opposed the government's bill for making Eire a republic within the Commonwealth, while guaranteeing the independence of the six counties. Two more resigned in sympathy. The cabinet, which had come successfully through the Lynskey tribunal's enquiry into corrupt practices in the civil service at the end of 1948, had no internal crisis of comparable dimensions to face in 1949. In July Lord Ammon was dismissed from the post of chief government whip in the House of Lords as a result of a disagreement with the cabinet over his conduct in his capacity as chairman of the Dock Labour board during a strike at the London docks. In November Lord Pakenham, minister for civil aviation, and one of Labour's most competent debaters in the Lords, was temporarily embarrassed by the resentment aroused at his peremptory rejection of the findings of a tribunal appointed by himself to enquire into the causes of an air disaster at Prestwick. He retained the confidence of his colleagues and emerged from the quarrel unscathed if not quite victorious The prime minister, though constantly expected to re-shuffle his cabinet, did not do so and could legitimately pride himself on having maintained an administration more stable in respect of its composition than most of its predecessors.



Vicky's comparison in Jan. 1949, in the "News Chronicle" (London), of the Labour government with an association football team.

Thus fortified against opposition from within, the government carried out its legislative programme with what seemed to its supporters a splendid steadfastness and to its opponents a remarkable indifference to the actual state of the country The time-table, which had been carefully worked out, provided for the passage of the Parliament bill (reducing the delaying powers of the House of Lords to one year) and the bill for the nationalization of iron and steel, by the end of 1949. According to the opposition, and to most independent observers, the object of the Parliament bill, which was to operate retroactively, was to enable the Iron and Steel bill to become law in spite of the opposition of the upper house before the general election of 1950 The better part of two years had been expended on the ceremony of presenting these bills to the Lords and laboriously repeating the arguments for and against them, and the process had almost reached its foreordained conclusion when the government announced that it had decided to introduce an amendment which would have the effect of postponing the application of the Iron and Steel bill until after the general election. This met the requirements of the opposition and the House of Lords fully and had indeed already been proposed by them. The Conservative party rejoiced at what it regarded as a proof that the government was not confident of its success at the election and wished to forestall the charge of having foisted a controversial measure on the country without its consent. Labour supporters, on the other hand, were content with the knowledge that iron and steel would become the nation's property without further ado if the party were returned to power, and that a fresh inroad had been made on the privileges of the upper house

The Labour Party. Meantime, preparations for the general election continued The government, like all parties which have successfully accomplished a revolution, was faced with the problem of what to do next Some favoured a policy of safety first and the consolidation of gains already made. Others, notably a section of the rank and file of the trade union movement, wished to move from public ownership to workers' control and had begun to murmur that centralized bureaucracy was only one degree better than capitalist exploitation. Finally, convinced doctrinaires wished to continue nationalizing industries and differed about the point at which the process should stop The party's programme, embodied in a pamphlet entitled *Labour Believes in Britain*, attempted a compromise between these views Industrial insurance, the cement industry, sugar refining, the wholesale meat trade, slaughter-houses, cold storage, water supply and what were comprehensively described as "all suitable minerals" were to be brought under public ownership. The chemical industry would be considered for nationalization. Shipbuilding and repairing would be dealt with by the appointment of a development council; and land would be acquired by the state, as indeed it always had been, when the public interest was deemed to necessitate it The menu was completed by the offer of a consumer advice centre and cheap hotels for the working-man's holidays. There was a vague reference to the importance of joint consultation in industry. The programme threatened party unity at only one point. The Co-operative movement, which did a considerable trade in industrial insurance, objected to the proposal to nationalize this service; but the objection was met by the decision, announced in November, to turn all industrial insurance firms into co-operatives.

At a singularly zealous but rather uneventful party conference at Blackpool in June this programme was approved by an overwhelming majority. A similar and even more striking success was achieved at the T.U.C. conference in early September, when the government's demand for restraint on wage claims was approved by a majority of six and a half million to one million. After the devaluation of the pound the government was forced to make cuts in public expenditure which the opposition condemned as inadequate and Labour supporters accepted loyally but reluctantly More serious still, it had to intensify its campaign for the freezing of wages. Here it was able to report considerable success by the end of the year. Faced by the financial and economic crisis, the government still declined to make any fundamental change in its domestic policy

The Conservative Party. The preparations of the Conservative party were hastened by a rumour which became current in the summer that the prime minister would appeal to the country in the autumn. The party was united in demanding a reduction of public expenditure, the restoration of incentives to production and the abolition of vexatious controls. Within this framework, however, there was much room for disagreement. Some members appeared to favour a policy of wholesale de-nationalization, accompanied by rigorous disinflation and the nearest possible return at home and abroad to the conditions of a free economy. Others held that the first duty of a government was to maintain a minimum standard of living, that the social services were sacrosanct and that economies could only be effected within the limits set by these



Low in this cartoon in the "Evening Standard" (London) in Oct. 1949 depicted the leaders of the various factions of the Conservative party each with their own future policy.

conditions. Nationalization could not be wiped out, though its extension must be resisted and some attractive alternative to it found. In imperial and foreign policy divisions also appeared. A group of members, under the distinguished patronage of Winston Churchill (*q.v.*), looked with disfavour on changes in the structure of the Commonwealth designed to enable it to retain members who repudiated their allegiance to the crown, while at the same time many of them, including Churchill, crusaded passionately for a customs union with western Europe and the merging of Great Britain in some kind of western European union Others felt that these two policies were incompatible.

After much deliberation the policies and principles of the party were set out in a pamphlet entitled *The Right Road for Britain* The party decided against general de-nationalization but put forward practical proposals for improving the efficiency of the nationalized industries by decentralization. It demanded drastic reductions in public expenditure, combined with the full maintenance and some extension of the social services, and a vigorous defence policy. It thus seemed to rely entirely on the elimination of wasteful administration as a means of saving money. The alternative to nationalization was provided by the re-affirmation of the Conservative *Industrial Charter*, which set profit-sharing and joint consultation as the ideals of British industry and committed the party, if returned to power, to encouraging their adoption by practical means. The programme contrasted the centralized Socialist state administered from Whitehall with the Conservative

ideal of a property-owning democracy in which every man would take an active part in the affairs which touched him most closely. To this end local government would be given increased powers and duties; and corporate and voluntary activity within the state would be encouraged. Abroad the party desired friendship with both the dominions and western Europe but put rather more emphasis on Commonwealth unity. This programme was enthusiastically approved at the party conference in London in October. As the weeks passed, however, party spokesmen insisted increasingly not on their long-term programme but on the immediate crisis and the superior ability of a Conservative government to cope with it. It seemed to many that events were in train which would make paper programmes, devised in the summer of 1949, irrelevant.

The Liberal Party. The Liberal party, at its conference at Hastings in March, approved the executive's intention to put 600 candidates up at the general election and rejoiced at having already induced 300 to stand. Its programme was approved by a large majority, and a new proposal for a flat rate of income-tax on all incomes below £500 a year took its place beside federal union, proportional representation and free trade in the party's medicine-chest. A bitter controversy in which accusations of communist and fascist tendencies were freely exchanged arose out of a proposal to cut out the compulsory clause in the scheme for profit-sharing and joint control which the Liberals intended to apply to a great part of British industry in the event of their being returned to power. The supporters of compulsion pointed out that in addition to its other merits it was the only aspect of the scheme which distinguished it from the Conservative *Industrial Charter*, and the clause was approved amid scenes of considerable enthusiasm. Throughout the year Liberals continued to protest against any proposal for an electoral truce with the Tories.

Other Parties. The Communist party of Great Britain, assembled at Liverpool in November, demanded the reversal of all policies favoured by all other parties, calling for higher wages, more public expenditure, non-intervention in eastern Europe and the erection of a phenomenal number of houses in a phenomenally short time.

Sir Oswald Mosley's Union movement, which was widely regarded as a reincarnation of the Fascist party, maintained silence throughout the year, although there was some activity among local branches. (T. E. U.)

POLITICAL PARTIES, U.S. **Democratic Party.** President Harry S. Truman (*q.v.*) led the Democratic party to several important victories at the polls in 1949, but party differences prevented the passage of most of his welfare state legislation in the first session of the 81st congress. Assuming a more aggressive leadership role as a result of his election in his own right in 1948, Truman submitted a formidable programme in his inaugural address on Jan. 20, 1949, and in subsequent messages. He also discarded the Roosevelt New Deal as a party slogan substituting for it the Truman Fair Deal. His proposals were regarded as more far-reaching than anything ever offered by Franklin D. Roosevelt. To finance the many new outlined activities, he asked for a $4,000 million tax increase. In foreign affairs Truman urged continued American co-operation with western Europe to combat Communism, which he assailed as " false doctrine." He advocated support of the United Nations, the European Recovery programme and the North Atlantic treaty.

Truman's proposals for extension and expansion of governmental power and activity were defeated through a combination of Republicans and conservative Democrats, mostly from southern states. He obtained only a housing construction bill and a farm measure providing for sliding and slightly lower subsidies. Truman's foreign programme was enacted almost as he presented it, despite some protests as to the cost of the foreign-aid bill.

In Labour day addresses before factory workers at Pittsburgh, Pennsylvania, and farmers at Des Moines, Iowa, he reiterated demands for action on all his original proposals. He urged a political alliance between farmers and workers as the two groups responsible for the " tremendous production of the country's economic system." Denouncing his opponents he declared that " with the Fair Deal we will win in 1950 and 1952." The special election results in 1949 offered some ground for these forecasts. The Democrats won four of the five contests for vacancies in the House of Representatives, losing only in a normally Republican district in Pennsylvania. When on Nov. 7 Herbert H. Lehman won the election to the senatorial seat in the state of New York (*see* below), the president interpreted the outcome as endorsement of his later record. He declared that it marked an advance in the creation of the welfare state. As 1949 ended, the Senate consisted of 54 Democrats and 42 Republicans. In the House of Representatives there were 261 Democrats, 169 Republicans, 1 American Labour party member, 1 Democratic-Liberal member and 3 vacancies.

The chairmanship of the Democratic national committee changed hands during the year. When J. Howard McGrath, of Rhode Island, resigned to become attorney general, he was succeeded by William M. Boyle, Jr., of Kansas City, Kansas. A former policeman and practical politician, and a close friend of the president, Boyle stepped up activity at national headquarters at Washington, D.C., and throughout the country. Like the president's, his formula for victory was an alliance of labour, farm and other numerically strong groups whose lot, he maintained, had been bettered by Truman policies. Democratic leadership in the Senate consisted of Alben W. Barkley, of Kentucky, as vice-president, Senator Scott W. Lucas, of Illinois, as majority leader and Senator Francis J. Myers, of Pennsylvania, as majority whip. In the House of Representatives, Sam Rayburn, of Texas, was the speaker and John W. McCormack, of Massachusetts, served as majority leader.

Republican Party. In 1949 the Republican party, which had been out of power for 16 years, became a divided and weakened organization in search of a popular leader and a popular issue. Inter-party strife began as soon as the national committee held its annual meeting at Omaha, Nebraska, in January. Committeemen identified with the Taft-Stassen group demanded the resignation of the national chairman, Hugh D. Scott, Jr., of Pennsylvania, who had been selected for the post by Governor Thomas E. Dewey, of New York, after his nomination as the 1948 presidential candidate. The opposition argued that Dewey and Scott had been too sympathetic to Truman's Fair Deal programme in the 1948 contest and that they no longer represented or reflected major party sentiment.

Scott submitted his resignation at a special meeting of the national committee in Washington in August and Guy G. Gabrielson, of New Jersey, was elected in his place. A Manhattan lawyer, he had been a Dewey supporter at the 1948 convention; but he immediately disassociated himself from any candidate or faction. James S. Kemper, on resigning as party treasurer, revealed that there was only $90,000 in the special reserve fund and blamed the decline in contributions on to the support given by the party to the Fair Deal policy. On Dec. 31, 1949, the deficit in the everyday operating treasury as distinct from the reserve, was $420,000. Kemper was succeeded by R. Douglas Stuart.

In November, acting on an authorization from the August meeting of the national committee, Gabrielson sounded the sentiment of Republican officeholders and organization

members on issuing a formal statement of principles. He asked: "Should there be a restatement of party principles at this time? If so, what should the restatement contain?"

Election results in 1949 had an anti-Republican flavour. The contest which attracted most attention was in New York, where the former governor, Herbert H. Lehman, opposed John Foster Dulles, who had been appointed by Governor Dewey to the seat made vacant by the resignation of Robert F. Wagner. Dulles made an all-out campaign against the Truman Fair Deal philosophy. Truman threw all his influence behind Lehman, who won by a majority of 196,293 in a total vote of more than 5 million.

So discouraging were the 1949 election results that Senator John W. Bricker, of Ohio, the party's vice-presidential nominee in 1944, suggested, unsuccessfully, that the Republicans and conservative Southern Democrats, who had frequently joined in voting against administration proposals, should formalize their legislative alliance by merging into a new political party.

Other parties. Third parties were almost a negligible factor in U.S. politics in 1949. The political and economic climate was not propitious for insurgency.

Leftist movements such as Henry A. Wallace's Progressive party suffered from intensification of the "cold war" with the U.S.S.R. High employment and wages, temporarily at least, neutralized the appeal of almost all rebellious elements. Still a third explanation was that Truman's Fair Deal programme approximated the domestic demands of most independents.

Wallace, who had organized the Progressive party to make his unsuccessful try for the presidency in 1948, was inactive and seemingly indifferent. He refused to run as an American Labour party candidate for the U.S. Senate from New York. The Progressive party held a national housing conference in Cleveland, Ohio, in September, which Wallace addressed. Only 600 delegates attended. Save for a demand for Anglo-Russo-American co-operation through the United Nations, the platform differed only slightly from the doctrines of the Truman administration.

The Communist party virtually disappeared. The number of active, die-hard members dropped to 40,000, according to the best estimates. Nowhere did its local candidates for office receive more than a handful of votes. When 11 top party officials in New York were convicted of conspiracy to overthrow the government by force, Eugene Dennis, secretary general and one of the 11 defendants, announced that the party would go underground. Despite these setbacks, he announced a drive for a $2 million campaign fund.

The Socialists named candidates for local and state offices, notably in New York and New Jersey gubernatorial contests, but they did not receive sufficient votes to remain on future ballots; this would force them to enter candidates by the petition process. Norman Thomas, perennial Socialist presidential candidate, indicated that he had had enough and would not run again. The party's only important state convention, held at Albany, New York, in September, virtually endorsed the Truman administration's legislative programme.

Typical of the voter's reaction to third parties was the outcome of the contests for New York's city council. Under a system of proportional representation, the American Labour party lost its only two seats, and the Liberal party lost its three incumbents. The new body consisted of 24 Democrats and 1 Republican-Liberal. The only member of the House of Representatives who did not belong to one of the two major organizations was Vito Marcantonio, of New York, American Labour representative. The New York elections for mayor and U.S. senator, however, suggested that these various political fragments could not be wholly discounted. Running as mayoralty entry of the American Labour party, the left-wing offshoot of an independent trades union movement organized in 1938, Marcantonio polled 356,423 votes compared with 1,264,600 for Mayor William O'Dwyer and 956,170 for Newbold Morris, Republican.

The Liberal party, the right-wing element of the original trades union movement, gained prestige in the New York contests. Its most prominent figure was Adolph A. Berle, Jr., former assistant secretary of state. The Berle faction turned out 372,281 votes for Morris in the mayoralty fight, and 416,023 for Lehman in the contest for the Senate. Since the latter won by only 196,293, he would have been defeated if this vote had shifted to John F. Dulles, Republican. Should the Berle and Marcantonio wings ever reunite, and their contrasting attitude toward the Soviet Union was the main issue that divided them, they could conceivably dominate politics in the nation's largest city and state. (*See* also COMMUNIST MOVEMENT; CONGRESS, U.S.; UNITED STATES.)

(R. TU.)

POLO. Steady progress was made during 1949 in the recovery of polo in England. There were eight clubs now playing regularly. Cowdray park, Ham common, Henley-on-Thames, Billericay (Essex), Rhinefield (New Forest), Taunton, Toulston (Yorkshire) and the newly-formed Hertfordshire club.

The county polo tournament was played in July at Roehampton and successful tournaments were held at Cowdray park in Goodwood week, at Henley in early August and at Brockenhurst, the Rhinefield club ground, in early September. A team consisting of Jack Traill, John Lakin, R. Skene and Humphrey Guinness, with Lord Cowdray as manager, undertook a tour in the Argentine at the invitation of the Argentine polo club, which also made all arrangements to mount them, and succeeded in giving a very good account of themselves. It was hoped that an Argentine team might visit England during 1950. Polo crosse continued to gain adherents; it became especially popular in the west country.

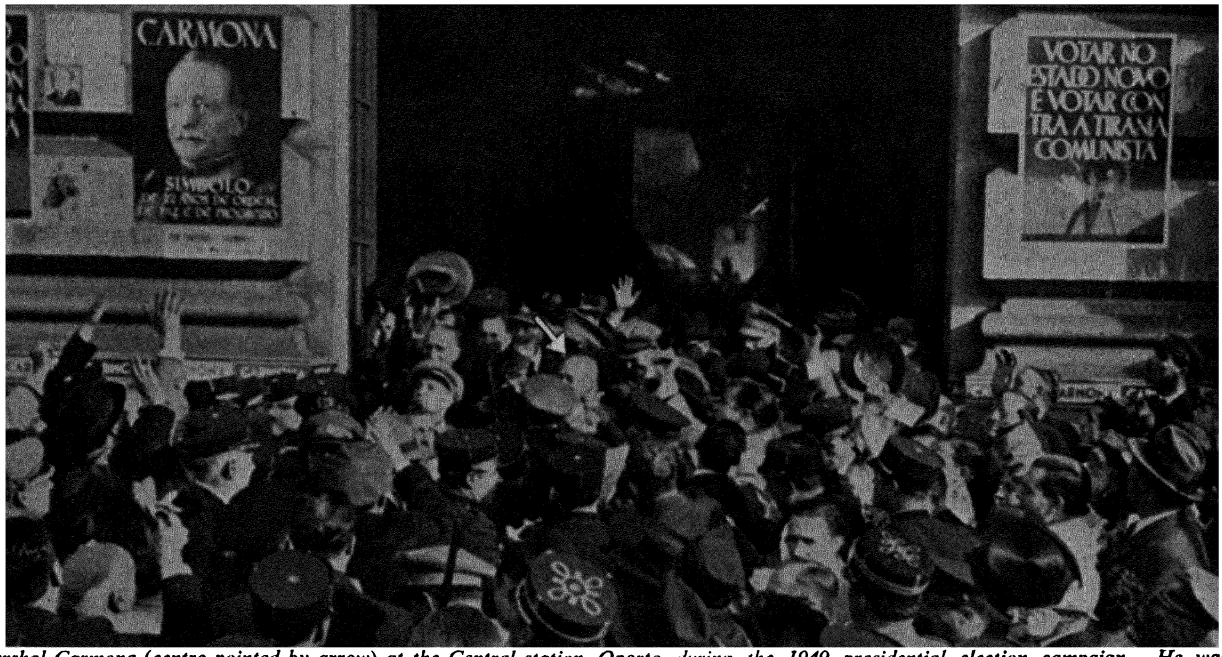
(J. C. G.)

United States. Argentina sent two teams to the United States. The Venado Tuerto four visited the Pacific coast in the spring where they completed a successful tour against the best players in the west. The only game they lost was to a strong Hurricane team in the Pacific Open championship tournament. A second Argentine team, El Trebol (the clover), arrived in May and played in all the eastern tournaments during September.

The outstanding team of the 1949 season was the Hurricanes, which won the Pacific Open and the National Open for the second year in succession. The university of Miami, Florida, team won the intercollegiate crown. (W. CN.)

POPULATIONS OF THE COUNTRIES OF THE WORLD: *see* AREAS AND POPULATIONS OF THE COUNTRIES OF THE WORLD.

PORTUGAL. A republic of southwestern Europe, forming part of the Iberian peninsula and bounded on the E. and on the N. by Spain. Area: 35,413 sq. mi., including Azores (888 sq. mi.) and Madeira (302 sq. mi.). Pop.: (1940 census) 7,722,152; (mid-1948 est.) 8,402,000, including Azores (1940 census, 286,885) and Madeira (250,124). Language: Portuguese. Religion: predominantly Roman Catholic. Chief towns (pop., 1940 census): Lisbon (cap., 709,179); Oporto (262,309); Funchal (54,856); Coimbra (35,437). President of the republic, Marshal António Oscar de Fragoso Carmona (*q.v.*); prime minister, Dr. António de Oliveira Salazar (*q.v.*); minister of foreign affairs, Dr. José Caeiro da Matta (*q.v.*).



Marshal Carmona (centre pointed by arrow) at the Central station, Oporto, during the 1949 presidential election campaign. He was re-elected on Feb. 13 by 941,863 votes to 4,789 for General Norton de Mattos, who had withdrawn from the election on Feb. 11.

History. After a heated electoral campaign, with threats of army intervention, General Norton de Mattos withdrew and on Feb. 13, 1949, Marshal Carmona was re-elected president for a fourth 7-year term. At elections for the National Assembly on Nov. 13, the União Nacional (pro-government) party was again returned, with negligible opposition. About half of its candidates were civil servants. The new assembly could initiate revision of the 1933 constitution. The archives of the illegal Communist party were seized in Luso in March and its secretary general, a lawyer, was arrested. In June a public security council was established to tighten preventive and repressive measures against subversive activities.

Features of the 1949 budget, which estimated receipts at Es.4,309 million, ordinary expenditure at Es.4,308 million and extraordinary at Es.1,358 million, were the provision of Es.317 million for increases in civil service salaries and a cut in public works in favour of development in Mozambique. It was announced in May that Portugal had foregone, in favour of other O.E.E.C. countries, any claim to U.S. financial assistance. Entry in July to the multilateral payments and compensation system between countries participating in the European Recovery programme led to an alignment of currency parity at Es.25 to the $. The new sterling rate after devaluation of the £ was Es.80·50 (instead of 100·25).

A European regional conference of the Food and Agriculture organization of U.N. was held in Lisbon in March, as was in April the International Geographical conference. The exchange of diplomatic missions with Pakistan, with the rank of legations, was agreed on in September.

Following on consultations with Spain, Portugal adhered to the North Atlantic treaty in April, with the reserve that no use of bases would be granted in time of peace. Dr. Salazar stated that the value and significance of Portugal's adherence would be affected by the inclusion or exclusion of Spain. The close understanding with Spain was underlined by the visit to Portugal of General Franco (*q.v.*) in October, when he was made a general in the Portuguese army.

The Anglo-Portuguese monetary agreement was extended in April for a year. Great Britain continued to be Portugal's chief supplier and, after the Portuguese colonies, its best customer. A fall in imports from Great Britain was envisaged in a new trade programme aiming at approximate equilibrium in payments between the two areas. A one-year trade agreement was signed with France in October, totalling Es. 600 million in each direction. Duties on all imports from abroad, certain agricultural chemicals and food excepted, were increased in June by 60%. In September a fund was created to stimulate exports.

Heavy rainstorms in September ended the longest drought in the country's history, which had severely hit the cotton and woollen industries through cuts in hydro-electric power. Much wheat had also to be imported. A vast reconstruction plan for the centre of Lisbon was approved. Dr. Egas Moniz (*q.v.*), the Lisbon neurologist, shared with a Swiss physiologist the Nobel prize for physiology and medicine. (W. C. AN.)

Education. (1946-47) Primary schools 10,248, pupils 533,344, teachers 13,747; private elementary schools, pupils 59,698; secondary schools (*liceus*) 43, pupils 20,965, teachers 1,154; private secondary schools, pupils 24,800; technical secondary schools 58, pupils 39,521, teachers 1,481; commercial schools 8, pupils 3,150, teachers 204; universities 3, students 8,568, professors and lecturers 464; institutions of higher education 3, students 5,846, professors and lecturers 281. Illiteracy (1940): 49%.

Agriculture and Fisheries. Main crops (in '000 metric tons, 1948; 1949 estimates in brackets): wheat 322 (317); barley 88; oats 99; maize 317; rye 131 (136); potatoes 994; rice 89; dry beans 40. Livestock (in '000 head): cattle (Dec. 1945) 950; sheep (Dec. 1947) 4,000. Fisheries total catch (1948): weight 180,606 metric tons; value 669 million escudos. Production (1948): meat (in '000 metric tons) 70·8; milk (in '000 metric tons) 330; olive oil (in hectolitres) 315,930; wine (in '000 hectolitres) 8,162.

Industry. Fuel and power (in '000 metric tons, 1948; 1949, six months, in brackets): coal 386 (231); lignite (in '000 metric tons) 103 (54); manufactured gas (in '000 cu.ft.) 1 234 (702); electricity (in million kwh.) 805 (418). Raw materials (in metric tons 1948; 1949, six months, in brackets): lead 1,650 (1,050); tin content of cassiterite 710 (630); iron pyrites 556,135; wolfram 2,511; antimony 84; sulphur 9,826; manganese 280; chromium 170; baryta 396; sulphur pyrites 9,826; cork 140,442. Manufactured goods (in metric tons, 1948): cotton yarn 31,486; cotton piece-goods 24,452; refined sugar 63,896; sulphuric acid 200,069; superphosphates 302,845; cement 500,000.

Foreign Trade. (Million escudos) imports (1948) 10,351, (1949, six months) 5,125, exports (1948) 4,295, (1949, six months) 1,713. Principal imports in 1948 machinery and vehicles, coal, petroleum and products, wheat and flour and steel mill products. Principal exports in 1948 cork and manufactures, cotton fabrics, wine and fish. Main sources of imports United States, United Kingdom and Portuguese colonies Main destinations of exports Portuguese colonies, United Kingdom and United States

Transport and Communications. Roads (1947). 16,080 mi Licensed motor vehicles (Dec 1948) cars 51,700, commercial vehicles 21,200 Railways (1947). 2,240 mi, passenger traffic 47,023,722, goods traffic 5,210,802 metric tons. Shipping (July 1948) number of merchant vessels of 100 tons and upwards 320, total tonnage 471,438 Telephones (1948). 114,818. Wireless licences (1948) 974,192

Finance and Banking. (Million escudos) Budget (1950 est.) revenue 5,271 5, expenditure 5,268·3 National debt (1947) internal 10,621, external 3,101 Currency circulation (Sept 1949) 7,850 Gold reserve (March, 1949, in brackets March 1948) 146 (184) million U S dollars Bank deposits (July 1949, in brackets July 1948) 17,230 (17,830) Monetary unit *escudo* with an exchange rate (Dec 1949, in brackets Dec 1948) of 80 50 (100 25) escudos to the pound

PORTUGUESE COLONIAL EMPIRE. Under this heading are grouped the Portuguese possessions in Africa and Asia. Their total area is approximately 803,835 sq. mi. and the total population (mid-1947 est.) 12,736,000. Certain essential facts and figures relating to the Portuguese colonies are given in the accompanying table

History. In July 1949 the Indian Congress party president, echoing Pandit Nehru's statement of Nov. 12, 1948, declared that neither the French nor the Portuguese possessions in India could have a separate existence from the Indian Union. A conference held at Belgaum had earlier demanded the accession of Gôa to the Union, and the Indian press alleged that many Gôan National congress leaders had been arrested when seeking to leave Gôa to attend. (Portuguese India was given in Dec. 1946 the status of a metropolitan province).

The garrison at Macao was reinforced in August from Portugal and Portuguese Africa to a total of some 6,000. In November, as the Chinese Nationalists withdrew from the neighbourhood, many stragglers and a number of Nationalist gunboats and armed junks sought refuge in Macao, drawing some Communist shelling.

On Jan. 1 the Portuguese government redeemed the Beira (Mozambique) concession, and port and railway passed to the Mozambique colonial administration. An international Conference of African Transport, covering railways, inland waterways, roads and ports, met in Lisbon in May with a view to the co-ordination of developments throughout the territories of central and southern Africa A plenary conference in Africa was to follow. Coal deposits believed sufficient to supply the whole Portuguese empire were discovered at Maniamba, Mozambique. Mozambique and Angola production of cotton was stated to be almost sufficient now for all empire needs.

Considerable developments in public works were recorded in the African colonies (and in Timor) and, taken in conjunction with the provision of government-paid passages for emigrants and their families going to guaranteed employment, were reflected in a substantial increase in emigration

PORTUGUESE COLONIAL EMPIRE

Country	*Area* (in sq mi)	*Population* (1947 est., percentages as of 1940)	*Capital, Status, Governor*	*Principal Products Exports* –1947 (in metric tons)	*Imports and Exports* (in '000 escudos)	*Road, Rail and Shipping* 1946	*Revenue and Expenditure* (in '000 escudos)
AFRICA							
ANGOLA (Portuguese West Africa)	481,351	4,495,000 (Europeans 1·2%, Negroes 98 7%)	São Paulo de Luanda (pop 40,000), colony. Governor general, Captain Silva Carvalho	maize 44,700 coffee 44,000 cane sugar 35,200 coconuts 13,900 palm oil 12,400 sisal 10,500 diamonds (carats) 802,000	(1947) imp 962,074 exp 981,012	rds 21,949 mi. rly 2,363 km shpg (entered) vessels 3,018 cargo loaded 619,869 tons cargo unloaded 220,286 tons	(1946, actual) rev 525,872 exp 482,173 (1949, est.) balanced at 644,169
CAPE VERDE IS	1,557	168,000 (Europeans 3%, Half-castes 65%, Negroes 32%)	Praia (pop., 6,000), colony Governor, Major Dr Alberto Alvez Roçadas	(1947, 8 months) mineral oil 160,862 copra 1,008 coffee 47 castor oil 34	(1947) imp 223,429 exp 205,895	rds. 544 km. shpg (entered) vessels 4,593 net tonnage 3,095,390	(1944, actual) rev 24,687 exp 22,249
PORTUGUESE GUINEA	13,948	422,000 (Europeans 0 4%, Negroes 98 9%)	Bissau, colony Governor, Raimundo Serrão	groundnuts 66,045 coconuts 27,884 palm kernel oil 5,188 rice 4,414	(1947) imp 145,303 exp 120,472	rds 2,705 km shpg (entered) vessels 65 net tonnage 91,128	(1946, actual) rev 40,629 exp 37,956
SÃO TOMÉ AND PRINCIPE ISLANDS	372	57,000 (Europeans 2%, Negroes 94%)	São Tome (pop., 3,187), colony Governor, Major Carlos de Sousa Gorgulho	cocoa 8,393 coffee 440 coconuts 4,927 copra 4,118	(1947) imp 79,949 exp 222,393	rds. 327 km shpg (entered). net tonnage 372,291	(1947, actual) rev. 40,612 exp 24,179
MOZAMBIQUE (Portuguese East Africa)	297,731	6,116,000 (Europeans 0 5%, Negroes 99%)	Lourenço Marques (pop., 48,000), colony Governor general, Commander Gabriel Mauricio Teixeira	sugar (raw) 76,328 copra 47,231 groundnuts 16,599 timber 80,529	(1946) imp 1,127,101 exp 966,421	rds 28,913 km rly 2,298 km shpg (entered, 1944). vessels 931 net tonnage 3,865,389	(1946, actual) rev. 892,904 exp 839,871 (1949, est.) balanced at 985,946
ASIA							
PORTUGUESE INDIA	1,538	657,000	Nova Gôa, metropolitan province Governor general, Commander Fernando Quintanilha de Mendonça Dias	fish, spices, coconuts, copra and salt	(1945) imp 224,052 exp 67,874	rds 702 km rly 80 km shpg. (entered, 1940) net tonnage 221,822	(1946, est.) rev 48,005 exp 48,005
MACAO	6 2	387,000 (Europeans 0 5%, Asiatics 98 6%)	Macao, colony Governor, Commander Albano Rodriguez de Oliveira	fish preserves and cement	(1936, in '000 patacas†) imp. 15,724 exp 9,144	rds 19 km shpg. (entered, 1938) net tonnage 3,116,410	(1946, est †) rev 60,766 exp 60,766
TIMOR	7,332	433,000*	Dilli (pop., 7,000), colony Governor, Captain Oscar Freire Vasconcellos Ruas	coffee, sandalwood, wax and copra	(1940, in '000 patacas†) imp 3,880 exp. 4,154	rds. 1,039 mi shpg. (entered, 1939) net tonnage 91,215	(1946, est †) rev. 9,430 exp. 9,430

*Native population only. †Pataca=16 07 escudos.

from Portugal. Mozambique attracted twice as many as Angola. The number of Portuguese settlers in Portuguese Guinea (784 in 1940) had doubled by 1949. A medical exchange system between doctors and specialists in Portugal and in Angola and Mozambique was inaugurated early in the year. Over 600 students from the colonies were engaged in higher studies in Portugal.

The minister for colonies re-affirmed in February that Portuguese policy continued firmly opposed to the modern trend towards autonomy and eventual independence for colonial territories. (W. C. AN.)

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POST OFFICE. The total value of post office transactions in Great Britain with the public during the year ended March 31, 1949, was £3,053,595,000. This was a reduction of about £32,405,000 on the figure for the preceding 12 months, and was more than accounted for by a decrease in the savings bank deposits. (See *Savings Bank* below.)

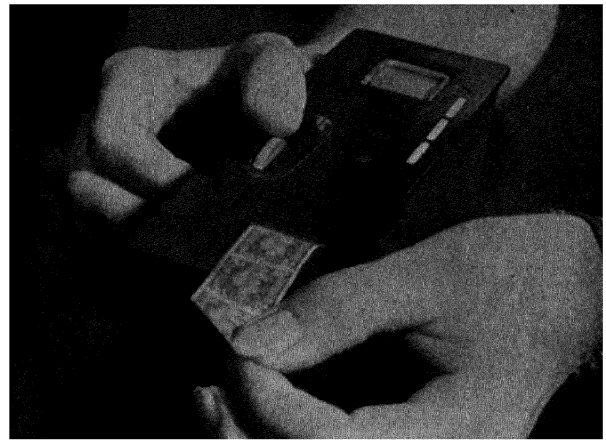
Postal. The number of letters and letter packets posted during 1948-49 was estimated to have been 8,050,000,000, an increase of 450,000,000 on the traffic for 1947. The number of parcels handled during the year dropped from 243,500,000 to 239,601,000. This latter figure included 16,024,000 received from abroad, of which about 13,000,000 were gift parcels, mostly food and mainly from the Commonwealth and the United States. On May 1, 1949, the inland registration fees were raised by one penny at each step of the scale. The minimum fee became 4*d.* covering compensation up to £5, 5*d.* covering compensation up to £20, then by 1*d.* at each step up to the maximum of 2*s.* for £400.

Air parcel services were started in April 1949 to many countries in Europe, and on June 1 the arrangements whereby first class mail (letters, letter packets and postcards) could be forwarded by air or surface route, whichever offered the earlier delivery, were extended to include Germany. A reduced air postage rate of 4*d.* a half-ounce was introduced on July 1 for second class mail (printed papers, commercial papers, samples, literature for the blind and small packets) to Canada, the United States and Mexico, thus extending this facility to include the whole of the western hemisphere. Some additional internal air mail services were introduced during 1949 and, in co-operation with British European Airways, the post office continued to study the problem of using helicopters for inland mail services.

Telecommunications. The number of telegrams handled during the year ended March 31, 1949, was 53,661,000, of which 10,265,000 were overseas telegrams. The comparable total for the preceding 12 months was 58,054,000, of which 10,615,000 were overseas telegrams. The system of manual through-switching introduced in the inland service was extended, thus reducing progressively the average length of time for transmission of telegrams over the network. Plans were well advanced for the gradual introduction of an automatic switching system.

The number of telephones in service rose from 4,652,704 to 4,919,203, a net increase of 266,499; this represented an actual rate of installation of over 56,000 a month after allowing for cessations, which was more than 50% above that of any prewar year. The number of working exchange lines rose by 4·1% from 2,835,558 to 2,952,416, a net increase of 116,858 exchange lines. In Sept. 1949 the 5 millionth telephone was installed on a farm near Canterbury, Kent. The number of applicants waiting for telephone service rose from 488,000 to 558,000, despite the high rate of connecting new subscribers.

The number of long-distance circuits in the public telephone network was increased by 7% from 14,528 to 15,562. The



A small machine, introduced in 1949, for use by post office clerks in issuing small numbers of postage stamps.

total number of inland telephone calls handled was 3,137,000,000 of which 2,911,000,000 were untimed calls: this represented an increase on the 1947-48 period of 10,000,000 timed and 230,000,000 untimed calls. On March 31, 1949, there were 3,969 automatic, 1,879 manual and 230 auto-manual and trunk exchanges in operation throughout Great Britain.

Savings Bank. Deposits for the year ended March 31, 1949, amounted to £371,869,000, a decrease of £54,959,000 on the sums deposited in 1947-48. The number of separate deposit accounts at the end of March 1949 was 23,562,000; on Dec. 31, 1948, the total amount due to depositors stood at £1,948,051,000 In the first three months of 1949, 22,050,000 savings certificates were purchased.

Personnel. In March 1949 post office personnel numbered 348,224, with a wage bill (including national insurance contributions) of £113,250,000 a year. (G. P. O.)

United States. Revenues of the post office department for the fiscal year 1948-49 amounted to $1,572,851,202. Estimated postage revenues lost from services not on a regular pay basis—penalty and franked mail, free-in-county mail, differentials in second-class mail matter and free matter for the blind—together with the excess of the cost of aircraft service over the postage revenue derived from air mail, amounted to $120,118,663.

The expenditures of the department for the fiscal year amounted to $2,149,322,128, of which amount $147,013,102 was on account of previous years. There was $120,671,703 unpaid on account of the 1949 fiscal year. This left a total expense of $2,122,980,730, resulting in a gross operating deficit on an accrual basis of $551,129,528. This amount did not include pending retrospective payments to railways, but did include a 25% interim increase granted to participating railways by the Interstate Commerce commission. It also included the estimated increased cost for the projected establishment of permanent rates on air mail routes by the Civil Aeronautics board.

During the fiscal year ended June 30, 1949, 1,470 million free pieces weighing 177 million lb. were mailed for other government departments—an increase of 52 million pieces but a decrease of 2·5 million lb. from the fiscal year 1948.

On June 30, 1948, war savings stamps were on sale at 41,607 offices, and sales from July 1, 1948, to June 30, 1949, amounted to $15,067,255. During the fiscal year 6,459,306 savings bonds with a sale value of $368,181,469 were sold. At the close of 1948, bonds were on sale at 26,503 post offices. Postal savings depositors numbered 3,964,509 for 1949—a decrease of 3·6% from the preceding year. The balance due

to depositors by outstanding certificates of deposits was $3,277,173,306—a 3% decrease. In addition there was held in trust for depositors accrued interest of $113,251,238 and unclaimed deposits of $228,964, making a total of $3,390,653,508.

Through the 41,607 post offices and 3,724 stations being conducted under contract agreement, as well as 2,083 stations and branches, there were received, transported and delivered 43,380 million pieces of mail matter during the fiscal year, having a weight of 11,623 million lb., an increase of 3,000 million pieces and 1,300 million lb. from the previous fiscal year.

Delivery service was established in 143 additional cities during the fiscal year, thereby increasing to 4,413 the number of cities in which this service was operated.

During 1949 it was impossible to deliver 18,142,721 letters —an increase of 23% from the previous year. A total of 4,075,970 were returned to the senders. Letters containing valuable enclosures numbered 374,234, of which 102,442 contained money amounting to $209,272. There were also 718,156 unclaimed parcels and articles found loose in the mails. A total of 592,944 were returned to the senders. The remaining 125,212 parcels were sold by public auction and $135,533 was realized.

On June 30, 1949, there were 155,314 mi. of domestic air mail routes in the United States—an increase of 25,221 over June 30, 1948. Three new domestic air mail routes were established. The domestic air mail rate was raised to six cents, effective from Jan. 1949 A four-cent air mail postal card had been authorized for the first time in 1948. Foreign air parcel post had been inaugurated on March 15, 1948, and domestic air parcel post on Sept 1 of that year. (*See* also PHILATELY; TELEGRAPHY; TELEPHONE.) (I. GG.)

POTATOES: *see* ROOT CROPS.

POULTRY. Although no great changes in the animal feedstuffs rationing situation took place during 1949, the concessions granted by the ministries responsible resulted in large increases in the poultry population.

In England and Wales in 1949 there were no fewer than 60,975,000 head of stock, including ducks, geese and turkeys, on the latest official returns compared with just under 52 million in 1948. In Scotland and Northern Ireland the figures were 10,006,270 (9,284,741 in 1948) and 24,236,000 (24,233,796 in 1948) respectively In each case these figures excluded stock kept on holdings of less than one acre.

Official estimates of egg production, based on packing station figures were unreliable because they took no account of the millions of eggs passing through the hatcheries, nor of those millions produced by the smaller poultry keepers who now enjoyed a free market for their sales. It was estimated that the number of domestic poultry keepers in England and Wales was still in the region of over a million—between them they kept upwards of 6½ million head of stock.

The greatest blow suffered by the poultry industry in post-war years was the re-introduction of Newcastle disease (fowlpest) to the United Kingdom owing to imports of table poultry from abroad. The early part of 1949 witnessed many serious outbreaks of the disease but, owing to the stringent measures taken by the Animal Health division of the Ministry of Agriculture, England and Wales became comparatively free of the disease and the outbreaks in Scotland were almost completely localized.

In the Commonwealth, Australia and New Zealand, free from ration worries but tied to high feedingstuffs costs, were encouraged to expand their poultry populations by the markets waiting for their produce in Britain. South Africa and Canada were also in advance of their 1939 figures.

European countries which were competitors on the British egg market prior to 1939 made more rapid strides in their poultry-production programmes, some by making use of European Recovery programme funds to do so. Denmark and Holland in particular, showed considerable expansion and, with Poland, were again exporting huge quantities of eggs to the United Kingdom. (*See* also VETERINARY MEDICINE.) (C. G MY.)

PRAGUE (PRAHA), capital of Czechoslovakia, situated on both banks of a large meander of the Vltava. Pop.: (1930 census) 848,823; (1947 census) 921,416. President (mayor), Václav Vácek.

Prague had emerged from World War II with very little damage Nevertheless acute housing shortage soon began to be felt. As the central bureaucracy increased after the "revolution" of 1948, with its three growing branches of nationalized industry, Communist party hierarchy and Communist-controlled trade unions, so the pressure on housing space increased. It would increase further as the industrialization programme of the five-year plan was carried out. Prague would have not only new factories, but still more bureaucrats to administer the ever more centralized economy. Considerable sums were allocated in the five-year plan to building. But this included industrial premises, government buildings and party offices. Private housing had a low priority. Overcrowding in Prague was therefore likely to increase to the point customary in the great cities of the U.S.S.R. The principal casualties were the former middle class. Having lost their property, their jobs either removed or threatened, they faced the final blow of being driven from their homes. During 1949 the authorities began to remove inessential persons from the capital and to take over rooms in apartments for workers. These powers could of course be abused for political or personal ends. Reduced to minimum housing space, former "bourgeois" must part with all but essential possessions, such as books. Thus the destruction of private libraries completed the process of regimenting thought, of which the earlier stages were censorship of the printed word, purge of public libraries and nationalization of publishing and of bookshops. The last measure did as much as anything to change the face of Prague, the variety and enterprise of whose bookshops was once famous in Europe. The symbol of the change that had come over Prague was to be the 100-ft. statue of Stalin, which it had been decided to set up on the castle square, one of the most beautiful and historic sites on the continent, which even six years of Nazi rule did not deface. (H. S.-W.)

PRESBYTERIAN CHURCH. Europe. From the distraught conditions of the Reformed Churches in Europe a new life and a new structure were arising. The meetings of the Council of Reformed Churches at Geneva, Switzerland, in Aug. 1948, had initiated a more widespread influence. The extent of this Reformed influence was stated thus: "that of all the non-Roman Communions the Reformed is the most catholic both in geographical extension and in variety of race and language." Representatives to the council came from France, the Netherlands, Switzerland, Italy, Germany, Czechoslovakia and Hungary (with the largest Reformed Church on the continent). Delegates were present from Scotland, Ireland, England, northern India, Ceylon, South Africa, Australia, New Zealand and America. Headquarters of the alliance opened in Geneva in Jan. 1949. This World Presbyterian alliance offered assistance to the European Reformed Churches in providing funds for the rebuilding of churches and for the sending of ministers into new areas. The alliance also enlisted women and young people through

their organizations to further Christian brotherhood and oecumenical understanding.

United States. The western section of the Reformed Churches throughout the world which held the Presbyterian system, within the United States of America, numbered 12 branches of Reformed Churches in 1949, and included 18,431 ministers, 18,479 churches and 4,234,288 communicant members.

The western section of the World Presbyterian alliance took steps in Feb. 1949 to promote the union of churches with emphasis on the reunion within the Reformed and Presbyterian Churches. Negotiations toward union were in progress between the Presbyterian Church in the United States (Southern) and the Presbyterian Church in the United States of America; and between the United Presbyterian Church of North America and the Reformed Church in America. A union of the Evangelical and Reformed Church with the Congregational-Christian Church was scheduled to form the United Church of Christ.

Protestantism continued to make unusual strides in the Latin American countries. The first Inter-American Evangelical conference, which met at Buenos Aires, Argentina, from July 18 to 31, 1949, was composed of some 70 official delegates from 17 countries of Latin America. Two major tasks of the Evangelical churches in Latin America were the dissemination of the Bible and the combating of secularism. In these tasks the Presbyterian and Reformed delegates held a special meeting to promote more united action in Latin America.

In the air of spiritual advance the emphasis upon evangelism produced significant results within the ranks of Presbyterian and Reformed Churches. The spiritual awakening brought many non-attenders to a sense of their spiritual needs and resulted in increased membership. Through the New Life movement in the Presbyterian Church, U.S.A., many young people enlisted in the work of the church. The Westminster fellowship, the Geneva fellowship and the Westminster foundations did much to enlist the support of young people in Christian life and work. Women, through their local and national organizations, enlarged their mission work. The National Council of Presbyterian Men, organized in 1948, continued to educate Christian laymen in the work of Christian missions and in the vital relationship between protestantism and human freedom. (*See* also CHURCH MEMBERSHIP; CHURCH OF SCOTLAND.) (W. B. PU.)

PRICES. The course of prices in the United Kingdom in 1949 was dominated by the devaluation of sterling in September. The upward movement in prices had been general and continuous from the end of World War II until the middle of 1948. The rise in prices was then halted and during the following 12 months prices were generally stationary or falling. A slow but definite downward movement in general price levels (apart from adjustments in subsidies and taxation) was the characteristic feature of the middle months of 1949. This trend was violently changed by devaluation. Although only partial and immediate effects were reflected in price index numbers by the end of 1949, the prospects then were for continued and (in some sectors) large price increases for many months to come.

Prices before Devaluation of Sterling. The main price index numbers are shown in Table I. The downward movement in prices during the months before devaluation in Sept. 1949 was most clear in prices of imports. Early in 1949, import prices stood at a level three times that of 1938; at the time of devaluation they had been lowered by more than 5%. Prices of imported foodstuffs declined equally with raw material prices. The prices of United Kingdom exports remained firm during this period of falling import prices. As a result, the decline in the prices paid for imports was matched by an improvement in the terms of trade. At the end of 1948, terms of trade were almost 20% less favourable than in 1938; by the time of devaluation in 1949 this differential had been reduced to little more than 10%.

The trend of domestic prices was less easy to follow since the prices were affected by changes in subsidies, in indirect taxation and in controls. Prices received by domestic farmers, inclusive of all government payments, were largely a matter of agreement between the farmers and the government; apart from seasonal variations, they did not differ much between 1948 and 1949. Prices of commodities, both at wholesale and at retail, were affected between April and June by a set of adjustments, following the budget and the declared policy to limit the total amount of subsidies and trading losses by the government. The main adjustments were in iron and steel prices and in the prices of some basic foods—meat, butter, margarine, cheese and eggs. There were also budget changes, particularly in the prices of beer and matches.

Among wholesale prices, the group of prices of basic foodstuffs (cereals, meat, fish and dairy produce) was increased from 50% to nearly 75% above 1938. This was almost entirely the result of the limitation of subsidies. Similarly, iron and steel prices, under governmental control, were adjusted to give an average increase from under 70% to more than 85% above 1938. In addition, prices of industrial materials declined fairly rapidly in the first nine months of 1949 and food prices at wholesale showed no more than normal seasonal changes (*e.g.*, in fruit and vegetable quotations). The general index of wholesale prices at the beginning of 1949 was 218% of 1938, practically the same figure as at mid-1948. In Aug. 1949, the recorded index was 225% of 1938 but elimination of the effect of adjustments in prices of iron and steel and of subsidized foods would reduce the figure to about 210% of 1938. This figure was comparable with the index at the beginning of the year, indicating that the underlying movement in wholesale prices was downward. The fall amounted to some 3 or 4% in eight months, and was due mainly to declining prices of non-ferrous metals, textile materials and other (non-food) agricultural products.

The adjustments in subsidized food prices raised the index of retail prices of all foods from 50% to about 60% above 1938. The index of all retail prices, affected also by the reduction in the price of beer and the increase in the price of matches following the budget, was raised from about 175% of 1938 to nearly 180% of the prewar level. Otherwise the general level of retail prices remained almost unchanged during the nine months before devaluation. There were some changes in gas and electricity tariffs, including the switch from winter to summer charges for electricity. Generally, price declines at the import and wholesale stages were absorbed or had not reached the retail stage.

The Effect of Devaluation of Sterling. By the end of 1949, recorded index numbers of prices reflected the consequences of devaluation to a limited extent. The longer-run effect of devaluation, to be expected during 1950, could only be roughly guessed. One computation could be made to show the direct effect of devaluation defined in a special sense. The calculation was based on the assumption that the domestic element in the prices of any commodity (including the actual amount of the distributive margin, of subsidies and of indirect taxes per unit of the commodity) remains unchanged, and also that the import element is unchanged in the currencies of the exporting countries. Sterling prices then increase only as a direct result of the new exchange rates, applied to the import elements in the prices. It was also assumed that the composition of imports from various sources remained unchanged and that the volume of imports and of consumption moved together.

TABLE I.—PRICE INDEX NUMBERS, UNITED KINGDOM[1]
(Average 1938=100)

	Average			1949			
	1946	1947	1948	Feb	May	Aug	Nov
(1) Average values of total imports	*211*	*258*	*289*	*300½*	*298*	*285*	*311*
Food, drink and tobacco	220	255	282	295	285	277	300
Raw materials	221	280	325	337	345	326	342
Average values of U.K. exports	*193*	*222*	*247*	*252*	*254*	*256½*	*256½*
Terms of Trade	108	116	117	119	117	111	121
(2) Agricultural prices	*204*	*237*	*245*	*270*	*231*	*249*	*286*
Grains	230	237	280	282	283	273	280
Livestock	184	218	237	246	274	259	247
Dairy produce	209	225	239	288	185	228	323
(3) Wholesale prices	*173*	*189*	*216*	*218*	*228*	*226*	*236*
Food Products	*158*	*167*	*177*	*172*	*189*	*197*	*203*
Cereals, meat, fish and dairy produce	136	137	149	150	166	175	182
Fruit and vegetables	234	277	249	209	253	264	269
Sugar and beverages	189	207	249	245	242	245	247
Industrial materials	*191*	*243*	*301*	*315*	*307*	*288*	*319*
Iron and steel	145	152	165	167	186	186	186
Non-ferrous metals	182	278	311	368	333	277	355
Agricultural products	218	283	372	380	366	347	382
(4) Retail prices	*150*	*160*	*174*	*176*	*178*	*179½*	*181*
Food	129	137	149	150	158	160	164
Drink and tobacco	241	274	311	316	306	306	306
Fuel and light	142	147	161	165	162	164	166
Other goods	175	182	196	204	205	206	204
Services	138	145	152	153	153	153	154

(1) Index of average values of imports or exports computed from annual data and extrapolated into 1949 by use of index of import or export prices (Board of Trade). Terms of trade taken as ratio of average value index of imports to that of exports.

(2) Index of prices received by domestic farmers (including government payments). Total index quoted in *Monthly Digest of Statistics*, annual index comprises some items not included in monthly index. Index numbers for sub-groups as quoted in *Bulletins* of London and Cambridge Economic Service, based on Ministry of Agriculture data.

(3) Index of average monthly prices (Board of Trade). Index for food products and that for industrial materials derived by re-combining and re-weighting price series selected from the complete Board of Trade index (see *Economic Journal*, London, June 1949). The group of "agricultural" industrial materials comprised natural fibres, hides and skins, timber, wood pulp, artificial silk, rubber and technical oils.

(4) Index of mid-month prices (Ministry of Labour) carried back to 1938, series as calculated for *Bulletins* of London and Cambridge Economic Service. "Other goods" comprised the three groups of clothing, household durables and miscellaneous goods.

In this special sense, the direct effect of devaluation would be to raise import prices by a little over 15% and, since the import content of total consumption was around one-fifth, retail prices would go up by some 3% over the whole range of commodities and services purchased by all consumers.

The direct effect of the new exchange rates on the index can be calculated at once from Table II. For example, in the total index, imports from countries which did not devalue their currencies amounted to 4·3% of the total and an increase of 44% in the sterling price equivalent must be applied to this part. The uncertainty in the calculation is in the 1·4% of the total attributable to imports from countries with multiple exchange rates, and this would only be resolved when new prices were fixed for Argentine meat, Spanish oranges, etc. It was expected that the modest rise in the retail price index in the last quarter of 1949 would be only a first instalment; a further increase of at least 5% taking place during 1950.

Europe. As in 1948, the greatest stability in prices, both at wholesale and at retail, was in the Scandinavian countries and the movement was very slight. In the Netherlands, wholesale and retail prices rose towards the end of 1948 but became more stable in 1949. The two countries with hard

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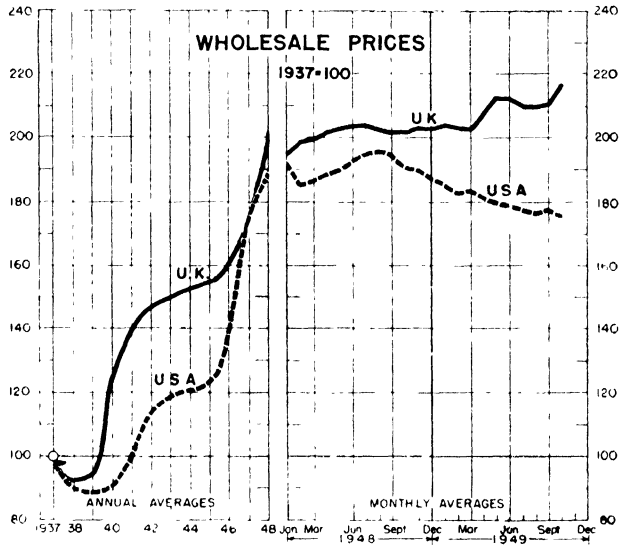

currencies, Belgium and Switzerland, experienced a considerable amount of deflation and prices declined in 1949, particularly at the wholesale stage. Of the two main countries where inflationary pressure was strongest, France was the more successful in controlling prices. In Italy, although there was no repetition of the inflation experienced up to 1947, prices were by no means stable. Prices fell and then rose again in 1948, with some reaction in 1949.

TABLE II.—IMPORT CONTENT OF RETAIL PRICE INDEX, UNITED KINGDOM, JUNE 1949

	Food	Other Items	All Items
% of retail price attributable to imports from			
(1) Countries with currencies not devalued	4·4	4·2	4·3
(2) Canada and Newfoundland	8·0	0·5	3·2
(3) Countries with multiple exchange rates	3·3	0·4	1·4
(4) Belgium, France, Italy and Germany	†	0·6	0·4
(5) Countries with currencies devalued with sterling	26·7	4·3	12·4
Total import content	42·4	10·0	21·7

† Less than 0·05%.

SOURCE: *Bulletin* of London and Cambridge Economic Service, Nov. 1949.

Commonwealth. The movement of prices in Commonwealth countries was similar to that in the U.S. or the United Kingdom, as expected. Both wholesale and retail prices reached a peak in the middle or during the second half of 1948; the trend was subsequently stationary or downward until the devaluation of sterling in 1949. Price declines were most evident in Canada, India and Pakistan. In Australia and South Africa, there was a greater stability in price levels and price rises were slightly more numerous than price falls after the middle of 1948. (R. G. D. A.)

United States. In the United States a gradual decline in the general levels of both wholesale and retail prices which began in the late summer of 1948 continued throughout 1949. By December, wholesale prices declined 10·6% and retail prices 4% from the postwar maximum levels of Aug. 1948. Wholesale prices of all major commodity groups fell, the most substantial decreases being recorded in farm products, chemicals and allied products and food. At the retail level, decreases in the prices of foods, apparel and house-furnishings were somewhat offset in the cost-of-living index by the relatively small increases in rent, fuel, electricity and refrigeration, and miscellaneous items, which all attained new postwar maxima at the end of the year. Despite the general overall decline in prices during the year, the wholesale price

TABLE III.—PER CENT CHANGE IN WHOLESALE PRICES, BY MAJOR COMMODITY GROUPS, UNITED STATES, SELECTED PERIODS, 1939-1949

Commodity	Post-war maximum	Nov. 1949 from Dec. 1948	Nov. 1949 from Aug. 1939	Per cent change Maximum from Dec. 1948	Maximum from Dec. 1947
Farm products	—21·3	—11 6	+ 157·0	+12·4	— 9 9
Food . .	—16 1	—6 6	+136 5	+ 11 3	—4·6
Textile products .	—8·2	—6 0	+ 103 5	—2 5	—0·9
Fuel and lighting materials	-5·5	—5 2	+79·1	+0·3	+10·1
Metals and metal products	— 4 7	—3 7	+79·5	+1·0	+14·7
Building materials	—7 1	—6 3	+111 5	+0 8	+5 9
Hides and leather products	—11 1	—2 4	+ 195 0	+9 8	—8·9
Chemical and allied products . .	—16 4	—11 4	+ 56 5	+5 9	—2·9
House-furnishing goods	—3 4	—3·4	+ 67 5	0 0	+ 6·5
Miscellaneous .	—11·2	—7 4	+49 7	+ 4·3	—2 5
All commodities .	10 6	-6 7	+102 0	+4 4	—0 5

index was slightly more than 100% greater in Dec. 1949 than in Aug. 1939; and the consumers' price index was 70% greater than that of Aug. 1939.

Wholesale prices for each major group of commodities, with two exceptions, reached their postwar maximum levels in 1948. The wholesale price of hides and leather products reached a peak in Dec. 1947. In 1949 (January) only metal and metal products attained a new high point. On the retail level, the rent, fuel, electricity and refrigeration, and miscellaneous items in the cost-of-living index continued to rise to new high levels at the end of 1949.

As shown in Table III, wholesale prices declined 6·7% during 1949. The downward trend was continuous throughout the year except for two slight upturns in March and September. At the beginning of the year prices dropped 2·6%, largely as a result of heavy inventory liquidations which were carried out in an orderly manner. The return to a shorter working week, production curtailments and high levels of consumer expenditure prevented a greater decline in industrial and raw material prices, and government subsidy programmes prevented a greater decline in the prices of farm products and foods.

Consumers' prices, which levelled off during 1948, fluctuated sporadically during 1949 and at the end of the year were 2·3% lower than at the end of the previous year. Retail prices were still 25·7% above the June 1946 level at which time price controls were removed, 51·6% above the level of the Dec. 1941, and 69·9% above the Aug. 1939 level. Declines in the prices of foods, clothing and house-furnishings more than offset the increases in other consumers' prices shown in Table IV. Had retail food prices declined during the year as much as wholesale food prices, the cost-of-living index would have been lowered substantially. The three peaks attained by the index of all items during the year—those in April, June and September—largely reflect sudden upturns in the prices of food and rent (*see* Table V).

TABLE IV.—PER CENT CHANGE IN CONSUMERS' PRICES (COST OF LIVING), BY MAJOR COMMODITY GROUPS, UNITED STATES, SELECTED PERIODS, 1939-1949

Commodity	Post-war maximum	Dec 1949 from Dec 1948	Dec 1949 from Aug 1939	Per cent change Maximum from Dec. 1948	Maximum from Dec. 1947
Food . . .	-9 0	—3·8	+ 111 0	+ 5·8	—0·9
Apparel .	-7 8	—7 3	+ 85 2	+0 6	+ 4 8
Rent . . .	0 0	+2·3	+ 17·2	+2·3	+ 3·6
Fuel, electricity, etc .	0·0	+1 4	+ 43·3	+1·4	+ 7·8
House-furnishings .	—6·7	—6·6	+84·4	+0·1	+ 3·8
Miscellaneous . .	0·0	+ 0·8	+54·7	+ 0·8	+6·6
All items .	—4 0	—2 3	+69·9	+ 1 8	+2·6

TABLE V.—CONSUMERS' PRICE INDEX (COST OF LIVING), BY MAJOR COMMODITY GROUPS, UNITED STATES, DEC. 1948-DEC. 1949. (Dec. 1948 = 100).

Year and month	All items	Food	Apparel	Rent	Fuel, electricity and ice	House-furnishings	Miscellaneous
1948							
December	100 0	100 0	100 0	100·0	100·0	100 0	100 0
1949							
January .	99·7	99 9	98 1	100·2	100 3	98·9	100·1
February .	98·6	97·4	97·4	100·3	100·7	98·5	100·1
March .	98 9	98·3	96·8	100·5	100 8	97 6	100·3
April .	99 0	98 9	96·1	100·7	99 7	96 6	100 4
May .	98·7	98·7	95·5	100 8	98·3	95·4	100·3
June .	98 9	99·7	95·0	100·9	98 4	94 3	100·1
July	98 3	98·4	94·1	101·0	98 4	94 1	100·2
August	98 5	98·8	93·5	101 1	98·5	93·1	100·5
September	98 9	99·6	93 4	101·4	99·4	93·4	100·8
October .	98·3	97·9	93 2	101·7	100·4	93·3	100·8
November .	98·4	98·0	93·0	102·1	100·9	93·4	100·6
December .	97·7	96·2	92·7	102·3	101 4	93·4	100·8

The downward trends of wholesale and retail prices during 1949 are summarized in Table VI. Some of the decrease in wholesale prices resulted from the reduction in exports caused by dollar shortages abroad. Since foreign demand in the postwar years was largely for commodities which were in shortest supply, this demand had a very strong influence on domestic prices. The decrease in exports largely reflected the revival of foreign economies on the one hand and inability to pay for imports from the United States on the other. The devaluation of foreign currencies during the year also exerted downward pressure on wholesale prices since in most cases devaluation abroad did not lead to a proportionate increase in prices of foreign exports to the United States. Other factors which tended to have a depressing effect upon prices were inventory liquidations, the overcoming of nearly all shortages in strategic raw materials, the decline in new plant expansion and competitive pressures.

TABLE VI.—INDEX OF WHOLESALE AND CONSUMERS' PRICES, UNITED STATES, DEC 1948-DEC 1949 (Dec 1948 = 100)

	Wholesale price	Consumers' price		Wholesale price	Consumers price
1948			1949		
December .	100 0	100 0	June	95·1	98 9
1949			July .	94·5	98·3
January .	98 9	99 7	August	94 2	98·5
February .	97 4	98·6	September	94 6	98·9
March .	97·5	98 9	October .	93·7	98 3
April .	96 6	99 0	November	93 3	98·4
May .	95 9	98·7	December	*	97·7

* Not available

Factors tending to sustain high prices were the continued high-level government and individual expenditures, temporary scarcity of commodities where output was curtailed by labour disputes, rent de-control and foreign demands subsidized by the U.S. In general, the continued high levels of wholesale and consumers' prices were sustained by the continued high level of economic activity in the U.S. which was buttressed by large government expenditures for national defence, foreign aid and farm price subsidy programmes. (*See* also BUSINESS REVIEW; NATIONAL INCOME; WEALTH AND INCOME.) (W. V. WT.)

PRINTING. Several European countries which had not previously produced much machinery for the printing and allied industries attempted to enter the export market during 1949. Such countries included Great Britain (viz., bookbinding machinery), Czechoslovakia, Holland, Italy, Sweden and Switzerland. The production of photographic type for lithographic and gravure processes continued to be an important matter and several methods moved nearer to practical application. Exhibitions were held at a very large number of European centres to attract export trade.

In Great Britain general unrest regarding wage standards was reflected in the printing industry and progress towards a long term settlement was made. The amount of work to be done was far greater than the available labour capacity; efforts, therefore, were made to recruit workers to the various branches of the industry and incentive schemes of payment were proposed. The new P.A.T.R.A. Research laboratories reported a very satisfactory first full year of work. The amalgamation of the L.C.C. School of Photo-Engraving with the London School of Printing was announced. Arrangements were made for the printing industry, along with certain other industries, to study production methods in the United States.

On the technical side home needs of new machinery were still sacrificed to the urgent demands for export. A remarkable offset litho machine designed to print four colours simultaneously on both sides of the paper web at speeds of more than 30,000 an hour was completed and exported to Denmark for the printing or periodicals. The successful development of this type of machine was made possible by the adoption of the bi-metal methods of lithographic plate-making, these plates becoming increasingly available for commercial adoption in 1949. Important improvements were made in silkscreen printing, both methods of stencil production and in mechanical operation. Owing to the difficulty of importing costly precision machinery for the reduction of make-ready time in letterpress printing, arrangements were made to manufacture in Great Britain the Vandercook types of presses together with certain Swiss precision equipment. The extended use of electronics was applied in register control of paper webs, in counting devices, in control of ink films and in the measurement of photographic image densities. A British standard for four- and three-colour letterpress process inks covering hue, lightfastness and concentration was also issued.

Europe. Czechoslovakia made efforts to produce machinery for export but did not achieve large scale manufacture. In France individual work was done on certain important technical developments and newsprint control was lifted from Oct. 1, 1949, but, owing to financial difficulties no outstanding progress was reported.

A certain amount of printing industry reconstruction was carried out in western Germany with the authorization of the occupying powers. In the eastern zone production both of printed matter and machinery was in the main for export to the U.S.S.R. The difficulties of machinery shortage and depleted technical manpower were partly solved and work was done by employees and trade unions jointly in re-organizing and financing printing technical schools. Keen interest was shown in technical developments in graphic processes throughout the world. Efforts were made in Italy to produce machinery for export in a fairly wide range. A high standard of printing design was encouraged by the establishment of graphic arts centres. The Netherlands increased the amount of printing produced for export including work in litho, letterpress and gravure and particularly in book and periodical productions. The Hadego method of photographic type production was also improved during 1949. Schemes for payment by results were adopted. In Sweden control was withdrawn on Jan. 1, 1949, and more use was made of bi-metal plates for lithographic printing. In addition to the continued development of precision methods and equipment Switzerland was the meeting place of three International Graphic Trade conferences. (A. Kk.)

United States. Announcements of phototypesetting mechanisms continued during 1949. One, unofficially named Lumitype, was designed for book, magazine and newspaper composition. Public demonstrations of a laboratory model were held by Graphic Arts Research foundation. The machine was the invention of two French communications engineers, René A. Higonnet and Louis Moyroud. Joined with the foundation were Vannevar Bush and Samuel Caldwell. Bush was the inventor of the telephonic relay system which was employed in a limited manner in the phototypesetting machine.

There were five basic parts: (1) electric typewriter, (2) memory unit, (3) counterjustifier which was an electrical computing and control system, (4) automatic photographic unit and (5) automatic stripping machine. The typewriter typed characters on paper just as was done on the conventional machine; also, as each character was typed its set-width was coded and stored in a memory device. The system used was based on units of 0.01 in. (actually two-tenths of a mm.). Thus, as each line was typed an indicating dial recorded by increments progressively the units occupied by letter characters *and* the word spaces. Having typed the maximum number of words which would go into the line, the operator depressed a special key. Switching elements in the counterjustifier added the number of units required for words and spaces between words. The total number of units was subtracted from the maximum number of units required to fill the line. The excess space required to fill the line to constant width was then automatically distributed evenly between the words.

The counterjustifier then sent its signals to the automatic photographic unit in which there was a continuously revolving vertically positioned glass disc six inches in diameter. Inset radially through the disc were photographic negatives of all the letter characters in the usual type fount. Set at right angles to the disc was a high-speed stroboscopic lamp which emitted flashes of two-millionths sec. duration. The lamp rays arrested the movement of the negative letter character in the revolving disc during exposure to the film. At the other side of the disc and also at right angles to it, but in line with the apertures in the whirling disc, was a lens system and the sensitized film. When an impulse was created by one of the coded characters a beam of light, triggered by a photo-electric cell, passed through the selected negative in the whirling disc into a lens system focused on the photographic film. Letter characters were photographed on the film at six exposures per sec. After development, the film could be printed on sensitized or Ozalid paper for proof reading.

The automatic stripping mechanism made corrections in previously composed matter, inserted folios, page numbers and running heads and automatically photographed a new film ready to be used by the platemaker. The proof reader's corrections were made on a new film and a code mark was placed at one side of the line or lines containing errors on the original film. The original film and corrected film were fed into the stripping machine simultaneously. The machine photographed a new film from the original composition until one of the code signals indicated by the proof reader told the machine to shift to the corrected film. After the corrected line or lines had been photographed on the new or third film, the stripping machine was shifted back to the original film. Operation was at a speed of ten average-width lines per sec.

Introduction of the Hadego Photocompositor invented by H. J. A. de Goey, Haarlem, Netherlands, for display line typesetting in negative or positive film form was made. With the exception of the photographic operation, the machine was based upon the principle of the Ludlow hot-metal machine. Matrices consisting of 48-pt. white letter characters upon a black background were affixed to clear plastic blocks. Letter characters were assembled like hot-metal matrices in a stick; the stick containing the line was placed before the camera and the exposure was made. Letter characters might be reproduced photographically on the film down to 19 pt. or up to 115 pt. Leading between the lines on the film might be obtained from 0 to 24 pt. (M. St.)

PRISONERS OF WAR. Albania, Poland and the U.S.S.R. alone of all the nations which participated in World War II still retained prisoners of war at the end of 1949. The total number was not known but was estimated to be between 1·5 and 2 million.

France completed repatriation of all prisoners of war held by that country in metropolitan France, the French zone of Germany and north Africa on Dec. 31, 1948 However, approximately 130,000 former prisoners remained as civilian workers, and a small number still were held for legal reasons. Yugoslavia announced that there were no longer any prisoners of war in that country. As in France, a certain number remained as civilian workers, and others were held for legal reasons. Czechoslovakia completed its repatriation of prisoners of war in 1949.

Poland, which held 40,000 prisoners of war at the end of 1948, still retained several thousand whose repatriation was promised by the end of 1949. Albania held throughout 1949 the 250 prisoners of war it reported in 1948 without any indications as to when they would be repatriated.

The U.S.S.R. repatriated a certain number of both German and Japanese prisoners of war during the year, but the total number repatriated and the total number of prisoners of war still held by the U S.S.R. were not known. Steps taken by various governments and by the International Red Cross to hasten repatriation of these prisoners brought responses that repatriation was being effected as rapidly as possible.

Dr. Konrad Adenauer, German federal chancellor, stated on Sept. 20 that from 1·5 to 2 million German prisoners of war in the Soviet Union had still not been accounted for.

An announcement from Moscow on May 20 stated that out of a total of 594,000 Japanese prisoners, 418,166 had been repatriated between 1945 and May 1, 1949.

Representatives of 58 nations (including the U.S.S.R.) meeting in Geneva, Switzerland, April 21-Aug. 12, 1949, completed the revision of the 1929 Prisoner of War convention. Twenty-nine states signed the revised convention in Geneva on Dec. 8, 1949, and during the following few weeks 22 others deposited their signatures. (*See* also RED CROSS.) (H. W. DG.)

PRISONS. In England and Wales overcrowding and understaffing continued through 1949. The daily average population remained about 20,000, almost double the prewar figure. Two more prisons were opened, at the Verne, Portland, for Star class prisoners and at Eastchurch, Kent, for civil prisoners and short-sentence Stars; in both, open camp conditions obtained. Further expansion was precluded by shortage of staff, since recruitment fell seriously during the year. Progress was made, nevertheless, in improving methods of training prisoners. The issue of new-pattern clothing was completed with good effect on the appearance and self-respect of prisoners. The earnings system was revised to allow earning from the beginning of the sentence, at a higher rate, and with greater equality between flat-rates and piece-rates. The effect on industry and morale was good. The stage system was completely revised on the principle that, since all privileges had a constructive value, a prisoner should receive them as soon as possible: thus for short-term prisoners (three years and under) the system was no longer progressive, a prisoner was either "in stage" or "out of stage"; for long-term prisoners the progressive system was retained. Letters and visits were divorced from the stage system and prisoners were now allowed to write and receive a letter every 14 days.

The statistical results of the system reported in 1949 showed a slight improvement. Of those who from 1930 to 1945 came to prison for the first time for offences serious enough to warrant the taking of finger-prints, the percentage of reconviction at the end of 1947 was below 20% for ordinary prisons, and about 10% for special training prisons.

The Borstal system, less affected by overcrowding or understaffing, maintained its steady recovery from war and postwar difficulties along established lines. Vocational training was expanded to some 50 classes in a dozen trades. Week-end home-leave for boys was re-introduced with benefit to their training and the educational system was further developed. Statistical results showed that, up to Dec. 31, 1948, of those discharged during the years 1942-46 some 74% of boys and 81% of girls had not reverted to crime.

The most important event of 1949 was the coming into force of those sections of the Criminal Justice act, 1948, which directly affected the prison system. The abolition of penal servitude, hard labour and the triple division of imprisonment left only the single sentence of imprisonment for all offenders not dealt with as persistent offenders: for these the act provided two forms of sentence; viz., corrective training (2-4 years) and preventive detention (5-14 years). The restrictions on the imprisonment of persons under 21 resulted in a fall in the young prisoner population, enabling the closing of two more "young prisoner centres." Young prisoners with sentences of three months or over were now released on a conditional licence. In consequence, the prison system was substantially re-organized. There were now local prisons (reception and short term), regional prisons (special training of selected prisoners) and central prisons (long term), including six open prisons. Four prisons or parts of prisons were set aside for corrective training and two for preventive detention. The Statutory Rules, 1949, provided a code expressing the spirit of the modern system, and throughout the year work was in progress on revision of standing orders and prisoners' cell-cards in line with the new rules.

Scottish prisons did not suffer from overcrowding, the population remaining 20% above 1938 level. Steady progress was made in improving methods of training in prisons and Borstals: the issue of new type clothing started, and the earnings system was revised as in England The Scottish Advisory Council on the Treatment and Rehabilitation of Offenders published a far-reaching report on the Scottish prison system. (L. W. F.)

United States. The federal prisons, emphasizing preparation for parole, began to allow some prisoners to live in special quarters set up within an institution and to wear civilian clothes. In addition, the federal Bureau of Prisons started a programme under which public-spirited citizens would offer constructive guidance to released inmates.

Idaho opened its first parole camp. This was both to aid men who would soon be paroled and to develop Idaho's lands near St. Maries. Selected prisoners, supervised by parole officers, not guards, would be prepared to bridge the gap between the routine life of the prison and the life of the free community.

In Michigan, under a new programme inaugurated in May, each inmate at the Jackson prison was assigned an adviser. As a result, every prisoner acquired a personal link with all administrative functions of the institution. Advisers were given office space accessible to inmates, facilitating discussion of personal problems in a friendly atmosphere.

New Jersey opened the first unit of its new diagnostic centre where ample facilities were provided for the examination of lawbreakers and other maladjusted persons. At the reformatory in Bordentown, a project believed to be unique in the annals of U.S. prison administration, proved successful. Ten inmates completed a course of study in Braille and continued their education. New Jersey also further developed and experimented with the use of group psychotherapy, a rehabilitative procedure which proved so promising that it was being practised in other states. (S. A. L.)

PSYCHIATRY. A distinct trend in psychiatric thought was seen to develop in 1949, culminating in the awarding of the Nobel prize to two pioneer investigators in the field of physiological psychiatry. Although emphasis was still placed by most psychiatrists on the psychological interpretation of mental abnormalities, much of the scientific work of the year was concerned with the basic physical and biochemical reactions of the brain. It was widely recognized that psychological phenomena ultimately must be based on such reactions and that if further advancements were to be made they would be along the lines of the physiological explanation of the function and chemistry of the brain cells and their appendages. Otherwise, psychiatry might tend to become exclusively a field of conflicting philosophical opinions which would form a barrier against fresh development, much to the detriment of the subject in general. Thus, to put psychiatry and psychodynamics on a firm structural foundation, attention was focused on a balanced programme of all-inclusive research into the physical causes of mental disease.

Scholars pointed out that with the gradual increase of scientific knowledge the number of mental disorders formerly classified on a functional basis was steadily decreasing. W. B. Terhune estimated that in the standard classifications of 1949 at least three-fifths of mental abnormalities were now accepted as being organic in origin. Many psychoses formerly thought of as functional were attributed to infections, intoxications, trauma, circulatory disorders or convulsive states, or due to faulty metabolism, nutritional disorders or defects in glandular secretion. Other physical factors were found to influence the psychoneuroses, such as semi-starvation or avitaminosis. These causes were particularly potent in colouring the mental state of former war prisoners and of displaced individuals from over-run countries. Many childhood disorders were also shown to be of a physio-psychic nature, and realization came to psychiatrists that psychological explanations for abnormal behaviour of children as well as adults were not entirely satisfactory without an added evaluation of genetics, constitution and bodily disease processes. Psychiatric illness, like other diseases, began to be recognized as fundamentally structural, psychodynamics describing but not explaining mental disorders. Psychotherapy was thought to be only one way of influencing the physiology of the nervous system; the treatment of bodily disease was considered equally important. Terhune went so far as to conclude that all psychological disorders resulted from a disturbance in the normal physiology of both mental and bodily functions which produced pathological processes, the whole being greatly influenced by disturbing environmental factors.

Some of the principal investigations on the function of the brain were carried out by W. R. Hess (*q v.*) of Zurich, a physiologist, winner of half of the Nobel prize in medicine for 1949. Hess's later researches were largely centred on that part of the brain known as the diencephalon, or mid-brain, lying on the base of the skull and thus particularly inaccessible to the neuro-surgeon. Investigations therefore were confined to animal experimentation. He found that in the diencephalon were grouped nerve cells which have to do with co-ordinating the harmonious interplay of all the organs of the body through the autonomic nervous system. Based on his previous studies of circulation and respiration, Hess re-evaluated the physiological importance of the diencephalic nuclei as a brain centre of vast usefulness. Of the two divisions of the autonomic nervous system, the sympathetic section appeared to play a decisive part in preparing the individual for activity, while the other section, known as the parasympathetic system, was of importance in relation to economy of action and repair of structures. Both of these divisions, under the control of the nervous central exchange in the diencephalon, exerted their influence both in the psychic field and upon the bodily organs. By artificially disturbing the equilibrium of the diencephalic nuclei in his animals Hess was able to subdue sympathetic control without interfering with the activity of the parasympathetic centres. Under these conditions, instead of preparing the animal for activity, artificial sleep was produced, thus allowing for better economy and repair through the relaxing of the parasympathetic influence. Psychiatry was therefore furnished with a concrete example of the fact that influences stemming from the diencephalon exerted an influence in activating the psychic function of sleep. Previously the cortex of the brain, the supposed site of the mind, was considered as fundamentally dominating and controlling all bodily processes, by a one-way pathway from cortex to lower centres From the investigations of Hess conclusions were drawn that the co-ordinating centres in the brain stem might in turn influence the psychic functions. These observations were considered by many as fundamental to the concept of physiological psychiatry. What previously had been suspected in regard to the effect of vegetative processes by way of the autonomic system regulating the activities of the higher cerebral functions was confirmed.

The work of Egas Moniz (*q.v.*) of Lisbon was also recognized by the award of a Nobel prize His work, also based on physiological experiments, dealt with the relation of frontal lobes, the area of the brain partially concerned with the highest mental processes, to the other parts of the brain A radical surgical procedure, cutting the connecting pathways, was devised and applied to man First announced in 1936, this operation, later known as pre-frontal lobotomy, was performed extensively after that date in advanced centres of psychiatry throughout the world. The evidence presented in 1949 would indicate that the operation, now modified into various patterns, had opened up a whole aspect of brain function and greatly affected psychiatric thought. Psycho-surgery, as the whole subject was now designated, became accepted as a form of treatment, greatly to the betterment of patients with the more serious and prolonged types of mental aberration. Much work on the subject still remained to be done for the selection of cases most favourable for lobotomy was still considered by most psychiatrists as a puzzling and unsolved problem. (*See* also MENTAL DISEASES, PSYCHOLOGY; PSYCHOSOMATIC MEDICINE.)

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(H. R. V.)

PSYCHOLOGY. During 1949 the most important psychological publication in Great Britain was the volume written by Dr. Vernon and Dr. Parry, *Personnel Selection in the British Forces* (London, 1949), which gave a general survey of the methods and results of personnel selection in the British army, navy and air force. Much of the technical detail had already appeared in the appropriate journals, but their book presented an admirable account of the administrative procedures that were gradually evolved. The main conclusion drawn was that the psychological methods that proved so useful during wartime might be adopted, with the necessary modifications, in education and industry to solve some of the urgent problems of peace.

The publication of the report of the Royal Commission on Population revived the controversies about the effects of the differential birth rate on the level of national intelligence. As early as 1913, school surveys commenced by Sir Cyril Burt in London demonstrated the existence of a negative correlation between children's intelligence and the

size of the families from which they came. Later investigations, however, showed that although small changes in the relative numbers of defective and scholarship children might be discernible they were nothing like the size that might have been predicted from the birth rates alone. J. M. Blackburn in several papers questioned the value of intelligence tests as indicators of innate intelligence; and Burt replied, supporting his own views by more recent evidence. By far the most interesting contribution, however, was the report of the Scottish Council for Research in Education on *The Trend of Scottish Intelligence* (London, 1949). In 1947, at the suggestion of the Population Investigation committee, the council repeated a survey which it had carried out in 1932. The results now published revealed not a decline but an apparent increase in ability as measured by the tests. The investigators suggested that the unexpected change might be explained by increasing familiarity with intelligence tests and might conceivably mask an actual decrease.

In the field of applied psychology two American studies attracted considerable attention. These were the work by Dr. A. C. Kinsey and his collaborators on *Sexual Behaviour in the Human Male* (Philadelphia and London, 1948); and the papers by Dr. K. Eissler and his colleagues on psychoanalytic aspects of delinquency, *Searchlights on Delinquency* (New York, 1949). Towards the end of 1949 the *Proceedings of the International Congress on Mental Health* (London, 1949) appeared and these contained a number of stimulating contributions on crime, sex, guilt and aggression and on the psychological aspects of war and peace.

In the experimental field, perhaps the most interesting researches were those by Dr. R. W. Pickford, the first describing a factorial investigation of musical appreciation and the second an improved apparatus for testing defective colour vision. *The British Journal of Psychology* (*Statistical Section*) (London, 1949) contained a review of the methods of factor analysis showing how these had developed out of the procedure originally proposed by Karl Pearson for analysing physical measurements; Mrs. R. Cole reported an item-analysis of the Terman Merrill revision of the Binet tests, and Miss G. Keir a study of the Progressive Matrix test. In the *British Journal of Educational Psychology* (vol. 19, London, 1949) two articles by Sir Cyril Burt gave a fully documented summary of the mental factors so far established by means of statistical research. (C. L. B.)

United States. An important publication during 1949 was D. O. Hebb's *Organization of Behavior*, which attempted to restate some of the facts of psychology in terms of modern physiological theory about the brain. Hebb was one of a number who returned to an interest in neurological theory as a source of hypotheses about complex processes like thought, expectation, attention, interest, consciousness and memory. The book starts with the recognition of a number of puzzling facts, such as the observation that great areas of the cerebrum in adults may be damaged or removed without interfering with certain intellectual functions. The neurological theory developed attempts to incorporate this sort of fact as well as the psychological evidence on learning, motivation, emotion, perception, intelligence, thinking and concept formation. The theory assumed that learning causes structural changes in central relationships between cerebral neurons or between systems of neurons of varying complexity. The growth of a concept involves the gradual organization of many neural cell assemblies or complicated circuits. Extensive brain tissue is necessary for the initial establishment of these assemblies, but with time and experience there is short circuiting and some of the assemblies originally involved are no longer necessary. Hebb postulated that for this reason brain damage could be relatively less severe in its effects on adults than on children.

The most important event of the year in the field of social psychology was the publication of the first three volumes of the projected four volume series, *Studies in Social Psychology in World War II*, based on the work of the research branch of the War Department from 1941 to the end of the war. Most of the studies were designed to meet practical wartime demands and the writers were fully aware of the consequent limitations of the information for the purposes of scientific generalization. Nevertheless, they extracted from interviews with more than 500,000 U.S. soldiers observations of the greatest importance for the historian, for those concerned with administrative problems and for the social scientist. The first of the three volumes summarized the problems of personal adjustment to institutionalized army life. The second dealt with combat and its consequences, and the third reviewed experimental studies of the impact on the soldier of educational and indoctrination films. The attitudes of the educated soldier were compared with those of the uneducated, those overseas with those at home, those with good chances of promotion and those with poor chances. A whole chapter was devoted to the problems of the Negro soldier. Fear in combat and the Army's attempt to deal with this problem were analysed. The final volume, due to appear in 1950, would examine the fundamental concept of attitude and the contributions of the research branch to methods of attitude measurement.

A whole issue of the *Journal of Consulting Psychology* was devoted to the report of one of the very few systematic attempts ever made to evaluate psychotherapy. A group under the direction of Carl R. Rogers described six studies of the therapeutic process, including careful and objective analyses of attitudes towards the self, the relation of self-acceptance to acceptance of other people, the way in which insight develops, changes in the maturity of behaviour and changes in expressions of defensive behaviour. Though the number of cases was small and there was no comparison of the group receiving therapy with a similar group given no therapy, this honest attempt to record interviews, to define concepts and check the amount of agreement on observations promised to be the beginning of a healthy departure from the usual unscientific evaluations of treatment. These first efforts of Rogers to subject his methods of non-directive therapy to scientific test constituted a landmark for clinical psychology. (*See* also MENTAL DISEASES; PSYCHIATRY; PSYCHOSOMATIC MEDICINE.) (H. PK.)

PSYCHOSOMATIC MEDICINE. Physicians, nurses and social workers occupied in tuberculosis sanitoria had frequently observed the high incidence of neurosis in patients suffering from this disease. Research work published on emotional factors in tuberculosis had generally dealt only with a few case reports, the observations of social service workers, or general comments by physicians untrained in psychiatric techniques. In 1949, however, a study by Eric Wittkower of 785 patients observed over a period of two and a half years provided much useful information concerning the role of emotional factors in tuberculosis. The views expressed did not clash in any way with those held by tuberculosis specialists, who had long known that an unhealthy mode of life and mental upsets often preceded the onset of symptoms of tuberculosis. But, going beyond these observations, Wittkower made an attempt to explain how this unhealthy mode of life came about, what formed the basis, and what were the common features, of the precipitating mental upsets.

He showed that inordinate need for affection was an outstanding common feature of the pre-morbid personality of tuberculosis patients. This need might be openly expressed, concealed or flatly denied. Situations arousing aggressiveness

or endangering the delicately poised security system of the patients often preceded the onset of symptoms of tuberculosis.

In brief, people who developed tuberculosis seemed to have a frequent inability to deal adequately with their aggressive impulses and were prone, for varying reasons and in different ways, to turn them against themselves.

W. A. Tillmann and G. E. Hobbs made a study of the psychiatric and social backgrounds of the accident-prone car driver. Dealing chiefly with taxi drivers they discovered that the high-accident group showed a marked intolerance for, and aggression against, any authority and that this behaviour dated from early childhood. The origin of the aggression was found in an unstable home background and showed up in anti-social behaviour. Analysing 96 drivers from the general population who had had four or more accidents and comparing them with a control group of accident-free drivers, they found that 66% of the high-accident group were known to social and law enforcement agencies as compared with only 9% of the control group. Commenting upon the question of the selection of drivers by personnel managers they stated that safe driving depended more on judgment, caution, and consideration of the possible errors of others than upon reaction time and good eyesight. They added that any intelligent personnel manager could learn to take the kind of life history necessary to detect the unstable person who is prone to get into accidents.

It became increasingly clear in 1949 that psychiatry has an important relationship to industrial medicine. G. T. Eadie described his method of handling psychosomatic problems, indicating that the surface complaint is not the same as the latent complaint and that one must look into the details of the latter. Eadie emphasized that interest in emotional factors must not lead to neglect of possible factors, and mentioned a number of problems, such as multiple sclerosis, Parkinson's disease, hyperthyroidism and anxiety attacks, that may contribute to disability and be responsible for industrial accidents.

With new discoveries regarding the role of the sex organs as producers of hormones (and the isolation and synthetic production of these hormones), biologists believed that a simple explanation of sexual behaviour and a simple treatment of abnormal sexual behaviour were at last available. But the simplicity of this explanation had already been questioned by experiments on animals which suggested that subcerebral mechanisms capable of mediating sexual responses had become more dependent upon the higher nervous system, and that the development of this increasing dependence on the cerebral cortex had to some degree freed the more primitive sexual mechanisms from strict control by gonadal hormones.

W. H. Perloff questioned this simple explanation in 1949 as far as the human being was concerned. He stated that three elements have to do with human sexuality. The first is the genetic factor which predetermines the particular type of sexual pattern and is constant within limits for any one species. The second factor is the hormonal one which leads to the development of the organs needed for the sex act and increases their sensitivity to stimulation. But the third important factor is psychological and this is concerned with the choice of the sex object and with the intensity of the sexual emotions. (*See* also PSYCHIATRY; PSYCHOLOGY.)

(E. Ws.)

PUBLIC OPINION SURVEYS. The September meetings in Paris were the main event during 1949. The World Association of Public Opinion Researchers (W.A.P.O.R.) held a joint congress with the ESOMAR or European Society for Opinion Surveys and Market Research (Commission Européenne pour l'Etude de l'Opinion Publique et des Marchés). This joint congress was preceded by a conference of the Gallup institutes; representatives from Sweden, France, Italy, Holland, Finland, Denmark and Great Britain conferred for a week with Dr George Gallup and his American colleagues. The W.A.P.O.R. meeting was the first to be held outside the United States, Dr. James White, president of W.A.P.O.R., was chairman of the conference, which was opened by the dean of the University of Paris. At one of the main sessions Dr. George Gallup, Elmo Wilson (International Public Opinion research) and Professor G. Jacquemyns (Solvay institute), discussed the polls in relation to the American presidential election, 1948. There were three national polls, Gallup, Crossley and Roper, and the score had been as follows in the case of Gallup:

	Result %	Forecast %	Difference %
Truman	50·0	44·5	5·5
Dewey	45·8	49·5	3·7
Wallace	2·1	4·0	1·9
Thurmond	2·1	2·0	0·1

It was stressed that, with the exception of the Roper forecast, the polls were statistically nearer the mark in 1948 than in earlier presidential elections. Crossley's forecast differed by less than one percentage point from Gallup's figures.

The W.A.P.O.R. conference confirmed Dr. James White as president and elected as its council for 1949-50 the following members: public relations, Jan Stapel (N.I.P.O., Amsterdam); membership and standards, Henry Durant (B.I.P.O., London); personnel training, Louis Moss (the Social Survey, London); Professor Stuart Dodd (Washington Opinion laboratory, University of Washington).

ESOMAR, at its Paris meeting, adopted a constitution which had been drafted during the 12 months following its initial meeting in Amsterdam. Following W.A.P.O.R., the commission adopted the plan that membership should be on an individual basis, not on the basis of organizations, and set itself the goal of attracting the membership of all individuals in European countries who were working in the field of opinion or market research or who were directly interested in such work. The council elected were, president, Professor Luzzatto Fegiz, Milan, with a committee consisting of: A. P. McAnally, London; C. D. Reventlow, Copenhagen; Georges Serrel, Paris; and M. Guigoz, Lausanne. Conferences were planned for 1950 and 1951. A hearty welcome to Britain in 1951 was extended on behalf of the British Market Research society, since that visit would coincide with the Festival of Britain

The Gallup conference, as was the case in 1947, was a series of severely technical discussions between practitioners in opinion research who were anxious to exchange experiences during the two years which had elapsed since their first international conference at Loxwood hall, Sussex. Arrangements were made to meet at Stockholm in 1951.

During 1949 the Canadian Institute of Public Opinion and the Norwegian institute had to face the test of forecasting national elections; the Netherlands institute had to face a municipal election in Amsterdam. In each of the three instances the forecast was very close to the actual outcome; in the case of the Netherlands institute the average error was less than 1%. The widespread discussions on, and detailed analyses of, polls that followed the American presidential election undoubtedly taught opinion pollers many useful lessons which they put to good account.

The three polls which forecast in Great Britain the division of popular sentiment on voting agreed in putting the Conservatives in the lead. (H. W. Dr.)

United States. Two major pre-election polls were taken during the year. The New Jersey poll, using a statewide quota sample of 1,000 New Jersey residents, correctly

indicated the re-election of Alfred E. Driscoll as governor with an error of less than two percentage points. The American Institute of Public Opinion questioned 2,366 persons in New York state on their voting intentions in the senatorial contest. Herbert H. Lehman was correctly picked as the winner, although his final strength was overestimated by several percentage points. The American institute sought to ascertain the " leaning " of undecided voters and gave more attention than in the past to separating registered voters who planned to vote from those not intending to vote. These steps were taken in an effort to profit by post-election studies made on the 1948 presidential polls.

Members of the American Association for Public Opinion Research, in conference at Ithaca, New York, discussed such topics as the application of opinion research to the problems of higher education and the role of opinion research in arriving at a science of politics. The Laboratory of Social Relations, Harvard university, began a study of the values and expectations of young people. A new Institute for Social Research was formed at the University of Michigan. The Social Science Research council published a full report on the pre-election polls of 1948 (Bulletin 60). A four-volume series from Princeton university press, based on an analysis of interviews and reports on American soldiers in World War II, was published. (G. H. S.)

PUBLISHING: *see* BOOK PUBLISHING.

PUERTO RICO: *see* UNITED STATES TERRITORIES AND POSSESSIONS.

PULP: *see* PAPER AND PULP INDUSTRY.

QATAR: *see* ARABIA.

RACKETS. J. H. Pawle won his fourth consecutive victory in the amateur singles championship, beating in the final D. S. Milford 3–2, the same margin as in 1948. The holders of the doubles championship, Milford and J. R. Thompson, lost to R. A. A. Holt and A. R. Taylor by 1–4.

Cambridge won the university match 2–1. G. H. G. Doggart and I. N. Mitchell (Cambridge) lost the doubles 3–4 to D. C. St. C. Miller and J. G. A. Campbell (Oxford), but both Doggart and Mitchell had comfortable wins in the singles. Winchester (P. M. Welsh and M. C. Coulman) won the public schools championship, and the Old Rugbeians beat the Old Etonians in the final of the Noel-Bruce cup (Dec. 1948). Captain A. R. Taylor won the Army singles championship for the fourth year in succession, and with G. W. T. Atkins won the inter-regimental cup for the Grenadier Guards. (AE.)

RADIOLOGY: *see* X-RAY and RADIOLOGY.

RADIO, SCIENTIFIC DEVELOPMENTS IN. During 1949 advances associated with developments in radar, broadcasting and television encouraged scientific research on an expanding scale to solve the problem of how to use most effectively the various bands of wavelengths or frequencies within the radio portion of the electro-magnetic wave spectrum.

The Ionosphere. In the 1920s it was demonstrated that the transmission of radio waves to distant points round the curved surface of the earth was effected by successive reflection of the waves between the earth and one or more electrically conducting regions in the upper atmosphere. More recently, these regions, which together form the ionosphere, were explored by recording and measuring the echoes received from pulses of waves transmitted vertically upwards from the observing station; and ionospheric observatories in different parts of the world made an almost continuous study of the height and density of ionization of the various layers in the ionosphere, and the manner in which these characteristics varied from day to night and throughout the seasons. By an exchange of results a world chart of the ionosphere was constructed from which the radio transmission conditions could be determined for any particular communication path. Based on the patient and systematic observation of the changing properties in the ionosphere, forecasts were now made, six months in advance, of the radio transmission conditions in various parts of the world; and such forecasts were found to be most useful by the authorities responsible for communication and broadcasting services.

In addition to this practical application, however, much useful scientific work was conducted on the relation between conditions in the ionosphere and other phenomena, such as the earth's magnetic field and the various radiations and emissions from the sun which caused varying ionization of the upper layers of the atmosphere. Research showed how the radio echo method could be used for the measurement of winds in the ionosphere at heights of about 100 km. above the earth's surface. For this purpose, a group of three receivers was arranged to observe simultaneously echoes resulting from the pulses of radio waves emitted from a transmitter suitably placed in relation to the receivers. The results indicated that winds of velocity of about 50 mi. per sec. were usually present at levels between 70 and 115 km. and that these winds showed a complicated semi-diurnal variation. These results were in reasonable agreement with those obtained by other workers who made visual observations on luminous phenomena in the sky at night.

Radio Astronomy. A few years ago it was established that a portion of the sun's radiation, which covered the entire electromagnetic wave spectrum, could be detected on a suitable radio receiver at various short wavelengths from a few metres to a few centimetres. The intensity of such received radiation varied with the wavelength or frequency used and also with the changing conditions on the sun itself.



George Strauss, minister of supply, (left) at an exhibition at the Radar Research and Development establishment, Malvern, Worcestershire, Sept. 1949.

Similar radiation was also received from stellar or galactic sources. By using a suitable antenna system the exact location of such radiation could be determined with considerable accuracy; and in this way a new technique was developed, appropriately termed radio astronomy, which supplemented the methods and instruments used by the normal astronomical observatory. The results already obtained by the radio methods indicated some very highly effective temperatures at the source of the radiation and such observations would undoubtedly contribute much to knowledge of phenomena occurring in the sun, particularly during the existence of sunspots and solar prominences. An interesting feature of the observations made on the stars was that the radiation being received left its sources many thousands of years ago.

The Speed of Radio Waves. The development of various applications, particularly radio aids to navigation, gave rise to a need for a more precise knowledge of the speed of radio waves when propagated under different conditions such as over the surface of the earth, over land or sea or through the widely varying meteorological conditions of the lower atmosphere. Measurements were made accordingly in aircraft on carefully controlled transmissions from ground stations in accurately known positions. For low frequencies in the neighbourhood of 100 kc. per sec. (wavelength 3,000 m.) and at a height of one-tenth of a wavelength above the ground, the speed of the waves was reduced from the value of the velocity of light in a vacuum by an amount dependent upon the electrical conductivity of the earth. For overland transmission this speed was about 299,250 km. per sec. For higher frequencies propagated at a height of several wavelengths, the speed of the waves was determined by the refractive index of the air rather than by the properties of the ground. Since the refractive index decreases with the height of transmission so does the speed increase towards the velocity of light in a vacuum; viz., 299,775 km. per sec. For example, centimetre waves propagated at heights of a few hundred feet were observed to travel at a speed of 299,690 km. per sec.; when the waves were transmitted between the ground and an aircraft flying at a height of 30,000 ft. this speed increased to about 299,750 km. per sec.

Television. Activity in Europe in the field of television during 1949 was characterized by scientific research, by the practical development of both transmitters and receivers, and by the holding of international conferences designed to improve co-operation and the efficiency of services provided by the various administrations. On the public service side, the United Kingdom began to implement its scheme for the provision of five main transmitting stations suitably spaced within the frequency band 41 to 68 Mc. per sec. at the lower end of which the London (Alexandra palace) station had been in operation for many years. The erection of the second station at Birmingham was completed during 1949; and this station, which was the most powerful television transmitter in the world, was connected to the London studio by a short-wave radio link, by means of which programmes might be relayed between the two centres. A coaxial cable suitable for the wide video frequency band required was also in an advanced stage of installation. On the receiver side, improved screens were developed for cathode ray tubes used for direct viewing; and higher voltage tubes in association with suitable optical projection systems were demonstrated, giving much larger pictures than those obtainable on the tube screen itself. Of the various European conferences, the one held in Zürich under the auspices of the International Consultative Committee on Radiocommunication (C.C.I.R.) discussed the possibilities of standardizing television techniques, particularly from the point of view of facilitating the exchange of programmes between national television services and the avoidance of mutual interference between stations in the same or neighbouring countries which operated on the same frequency.



A 60-foot high radar unit under construction in 1949 at Frankfurt, Germany, on the flying route from Western Germany to Berlin.

Miscellaneous. With the rapid growth and application of radio technique at increasingly higher frequencies it became necessary to obtain fuller knowledge of the properties of the various dielectric and magnetic materials used in the equipment associated therewith. Experimental methods for measuring the dielectric properties of various materials at centimetre wavelengths were developed and applied to the study of the properties of various solid and liquid dielectrics. Furthermore, a theoretical study of the relation between these properties and the chemical and physical structure of the material was undertaken with a view to obtaining a better understanding of the absorption and resonance effects observed in various materials. The magnetic properties of ferrites and similar materials now developed for use in radio frequency components were also studied. Other items on which research was conducted include the crystal-valve, which offers the possibilities of a more economical means of amplification at moderate radio frequencies, and the phosphors used in electronic camera tubes for television purposes. It was anticipated that such research would open up new vistas of radio applications or result in an improved efficiency of techniques already in practical use. (R. L. S-R.)

RAILWAYS. Great Britain. The major event of 1949 was the publication of the annual report of the British Transport commission which reviewed the first year's working of the British railways after nationalization. Owing to the fact that the Transport act, 1947, laid down that all facilities taken over, railways, highway transport, inland waterways, docks and hotels should be treated as one entity, the form of accounts had been based on this instruction. Consequently the separation of the railway results proper from those of the other transport activities could not be accurate and this, in

turn, precluded any true comparison with pre-nationalized results. In practice financial and statistical returns for the period of World War II were sparse, because to save clerical work the revenues of the four main line railways were totalled together with those of the London Passenger Transport board, since 1947 known as the London Transport executive, and now forming part of the commission's activities.

The financial results of the British railways, operated by the railway executive, yielded net receipts of £26,257,737 in 1948, which were equivalent to an operating ratio; *i.e.*, percentage of working expenses to gross receipts, of 92% but this sum was offset almost £4 million by losses on road collection and delivery services. The net traffic receipts from the railway executive's steamship services, however, totalled nearly £3 million. The nominal amount of 3% Guaranteed British Transport stock, issued as compensation for the railway undertakings now vested in the British Transport commission, was nearly £927,500,000; but statistically it would be inaccurate to relate this to the net traffic receipts, owing to transfers of docks, hotels and other railway-owned property to other executives. The final debit balance in net revenue account for 1948 of the commission's total undertaking was £4,700,000, and the annual report prophesied a deterioration in the financial situation for 1949; costs for labour and materials in fact continued to rise and railway traffic receipts, more especially on the passenger side, to fall actually by more than £6 million during the first nine months of 1949. Freight traffic revenues broke about even over this period.

The complete re-organization and unification of the railway system necessitated continued concentration on problems of administration and aimed at obtaining uniformity of practice, staff conditions, inter-changeability of equipment and standardization of methods covering what were previously four large railway systems. The task would require further years to complete; but in the meantime progress could be recorded in spite of the difficulties owing to the restricted allocations by the government of steel and other key materials. There was no change in the level of charges, which had not been raised since 1947, but detailed studies had long been in hand with the object of designing a unified classification for freight by rail and road as part of a national system of transport charges, for upon this would rest the success of any scheme of integration of transport facilities offered by rail, road or water. Demands for wages increases except in minor instances were refused by a government-appointed conciliation board, and 1949 was free of major labour disputes in the railway industry, though in August there was a dispute on the east coast routes over the question of "lodging turns," and stoppages occurred on successive Sundays, Aug. 14-28, but ended after a promise to withdraw disputed turns after the summer. (*See* also STRIKES AND LOCKOUTS.)

Concerning technical matters, new signal installations were placed in service at Doncaster and Liverpool; and conversion to automatic colour-lights on the London-Croydon section of the Brighton electrified main line progressed steadily, a project dating back to before 1939. In September electric traction was inaugurated on the suburban service from Liverpool Street to Shenfield, again a pre-1939 plan. A report known as the London plan yielded a blueprint for future transport developments in the London area; but since the total cost of new underground electric lines and many conversions to electrification were calculated to require over £200 million, it was clearly a proposal which would require many years to complete and could only be carried out piecemeal.

Experiments were made with double-deck coaches on the Southern's electrified suburban services. Amongst inter-region transfers of routes may be noted that of the London, Tilbury and Southend to the Eastern from the London Midland region. A new design of all-metal coaches built in railway workshops at Derby entered traffic; standardized colour schemes were settled for locomotives, namely black, green and blue, with crimson and cream for corridor stock and crimson for non-corridor stock. All electric equipment was to be painted green, for long the standard colour on the former Southern railway, the largest suburban electrified network in the world. Inter-regional tests carried out with various classes of locomotives in 1948 provided useful data for the coming design of a few standard types for the British railway system. In the interim the standard classes of the ex-main line companies were being perpetuated and the two gas turbine locomotives ordered by the former Great Western railway were not yet in service.

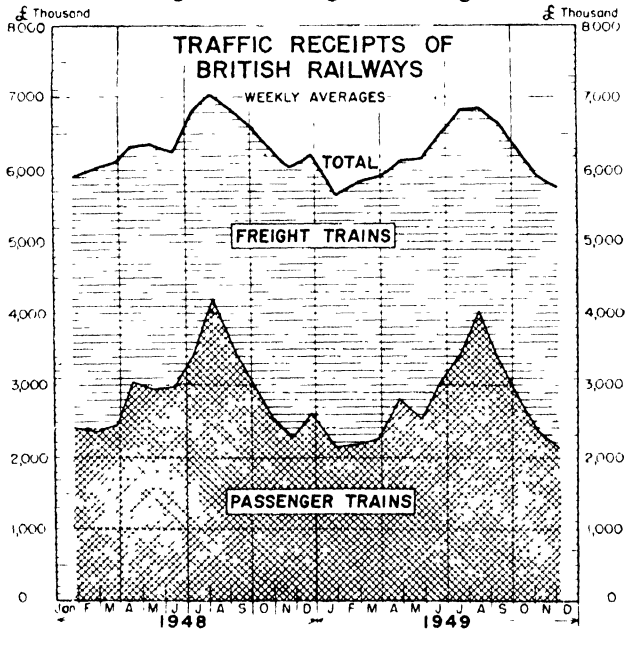
In spite of drastic scrapping of obsolescent locomotives and wagons, several hundred locomotives were stored and there was no wagon shortage, although output in 1949 was restricted by lack of steel. As regards track, a new standard was adopted using the flat-bottomed, or Vignoles, type of rail in place of the traditional British bull-head rail held in chairs. Savings were expected in maintenance, though the initial cost per mile was considerably higher; but shortage of labour for track forces and increased wage rates altered the economic balance between the two types of track. The use of pre-fabricated track for renewals was carried further in Britain than elsewhere.

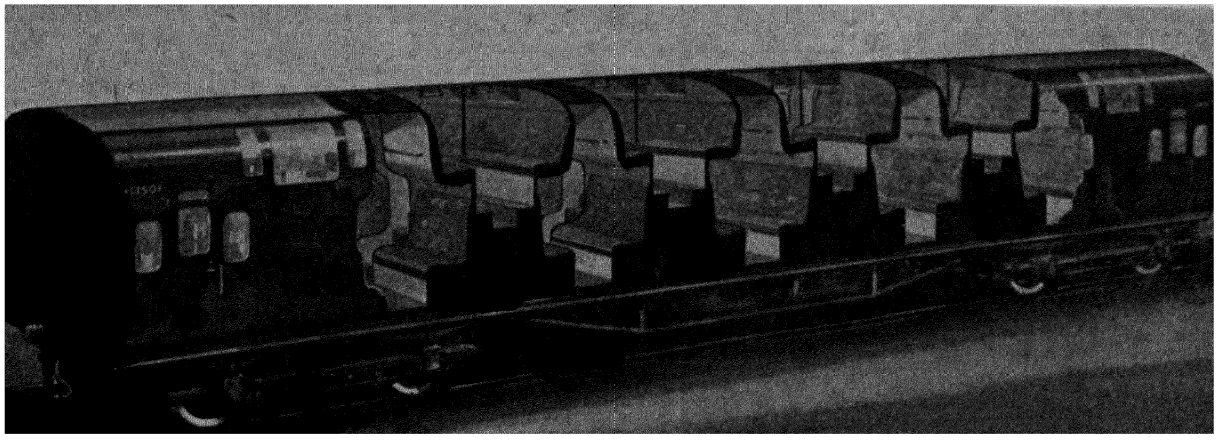
In Northern Ireland the Ulster Transport authority took over the ex-London, Midland and Scottish railway's lines in Ulster from the British Transport commission; the Great Northern providing the link between Belfast and Dublin and so crossing the republic of Ireland's frontier, found itself in financial difficulties. It was the last important company-owned railway in Europe, if one excluded the Bern-Lötschberg-Simplon.

In Ireland, the transport system was the subject of a detailed investigation which led to current proposals to nationalize the Irish Transport company.

Europe. In Albania, both the 26 mi. standard gauge Durres-Pekinye line and the connecting Durres-Tirana section of 18 mi. were due for completion in 1949.

On the Belgian national railways (S.N.C B.) electrified services were inaugurated between Brussels and Charleroi in October, marking a further stage in the large scale scheme





An artist's impression of the experimental double-decked electric train which was introduced on the London-Dartford route on Nov. 2, 1949. The eight coach train had a seating capacity of 1,104.

for main-line electrification; steady progress was made on the "ligne de jonction" linking Brussels-Midi with Brussels-Nord.

Railway construction continued in Bulgaria, including an avoiding route north of Sofia opened in Oct. 1948 and a 22 mi. line between Lovech and Troyan; there were also developments in the Pernik coal area and at Orekhovo on the Danube.

The financial situation of the French national railways (S.N.C.F.), reported to be operating at an annual deficit of over £20 million, gave cause for considerable anxiety in 1949 and important changes occurred in the highest administrative posts. The government's proposals to deal with this question were published in Nov. 1949, after a delay due to ministerial crises, in the form of decrees. They envisaged the close co-ordination of rail and road transport, the preparation of new tariff scales for both rail and road and the closing, on a major scale, of branch lines to passenger traffic. Steady technical progress in the reconstruction of classification yards continued; above all the electrification of the Paris-Dijon main line, due to be partially opened early in 1950, proceeded. The growth of the auxiliary transport operating company (Société de Controle et d'Exploitation de Transports Auxiliaires) was most satisfactory and improved the transit speed of parcels and other small consignments. In Paris the *métro* re-inaugurated first class travel and a Paris Transport board was set up.

More reliable information became available at last concerning Western Germany; and the improvement in facilities there offered opportunities for the acceleration of international services in which the German railway (Bundesbahn) occupied a key position.

The breaking of rail communications between the western and eastern zones at Helmstedt with their consequent replacement by an air-lift needs no comment; but specific reference should be made to the reconstruction of some of the Rhine bridges and to the great strides that were made in Germany towards regaining the famed prewar efficiency of the Reichsbahn. As some statistical measure it may be noted that nearly a million wagons were loaded in Dec. 1948, as against only about 718,000 in January of that year, and about one million were placed for loading in June 1949 in the western zones. The financial situation remained serious, however, and the chances of self-financing from German sources did not seem very propitious.

The Greek state railways route from Athens to Larissa was re-opened in July, sections having been out of service since Oct. 1944; thus with two exceptions, Papapouli-Katerini and Skydra-Aghia, the whole of the state railways system was re-opened.

Praise was due to the Italian state railways for their fine work in postwar reconstruction. Damage was calculated as equalling 75% of the prewar capital investment of 49·5 million lire. On a 1949 line basis the damage equalled over £500 million or 900,000 million lire; by 1949, nearly 500,000 million lire had been expended on reconstruction. Specific items completed in 1949 were the Pontelagoscuto bridge across the Po, costing 505 million lire, and the new station at Verona. Indeed, aid under the European Recovery programme provided material assistance in framing these and other projects as well as electrification. Railway traffic reached 90% of the prewar level; electric traction was being installed in Sicily on the Messina-Palermo and Syracuse lines and over 5,000 passenger coaches were in service and *rapido* expresses were reinstated on the Rome-Naples and Milan-Bologna lines.

In the Netherlands railway rehabilitation continued apace and the conversion to electric traction of the Maastricht-Eindhoven-Heerlen main line was completed in May 1949, involving 90 route mi. This changeover required the use, for the first time in Holland, of electric locomotives and should reduce coal consumption by 300,000 tons.

In Norway the conversion of another section of the Sørland railway in June to electric traction provided the Norwegian state railways with a completely electrified route from Oslo to Stavanger, except for the westernmost section, Flekkefjord-Stavanger; progress was made on the northerly extension of the Nørland line. Since 1938, the system's route mileage had increased by about 400 mi. or 15% and freight traffic was approximately 40% above prewar.

In Spain a further 60 mi. were completed in the link between Lerida and the French frontier and the Spanish national railways placed large orders for steam locomotives in Britain.

In Switzerland estimates were prepared of the likely demand for electric power over the period 1950-59, about 95% of the Swiss Federal railways being electrified. It was deemed essential to develop further some of the hydro-electric resources of the Gotthard to supplement the existing Amsteg and Ritom power stations.

Developments in the Soviet Union were indefinite; but Kharkov was regarded as the centre of the diesel locomotive construction industry and electric traction was inaugurated on the Nikopol-Dolgintsevo 74 mi. section near Odessa, just prior to 1949. The Poti-Samtredia 28 mi. line was similarly converted.

New construction in Yugoslavia included a 34 mi. standard

gauge line between Kumanovo and Ovče Polje and conversion to standard gauge of the 145 mi. Skoplje-Ohrid section proceeded. The re-laying of the second track of the Belgrade-Zagreb main line was completed westwards from Belgrade to Novska by April 1949.

Asia. Information on events in 1949 was sparse regarding many of the Asian railways; rehabilitation continued in Burma and Malaya; and under the Israeli regime, the Palestine railways were being extended. In China the position was confused; but information was available concerning Pakistan and India. As yet there were no through services between western Pakistan and India, though eastern Pakistan was served by through trains from Calcutta; speeds were still below the prewar level. Traffic volume was improving on the North Western railway of Pakistan and receipts were double those of the 1940-47 period. Pakistan locomotives were being converted to oil burning. In India a surplus was expected from railway operation in 1949-50 and works under construction included a new line to provide a direct rail link with Assam. On the Great Indian Peninsular railway (G.I.P.) the Mathura-Delhi route was being widened and new all-metal coaching stock built in India was coming into service.

Ceylon railways had long suffered from chronic deficits and in 1949-50 there was to be no exception. The system was heavily indebted to the government owing to greatly increased costs; improvements were, however, being effected to the track and structures.

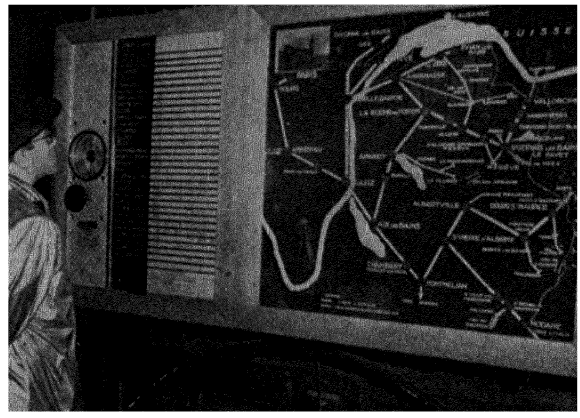
The latest Iraqi state railways report referred to the success of its air subsidiary which was formed in 1946, to the progress made with the 70 mi. extension from Kirkuk to Erbil, a metre gauge line, and to new bridgework over the Euphrates. Orders for additional steam motive power were placed in Britain by the Iraqi state railways.

Africa. An interesting development in Egypt was the proposed separation of the railways and state budgets: in fact this marked a return to earlier policy because a similar separation was effected in 1933; but in 1940 the policy was reversed because, it was claimed, no advantage accrued. In 1949 the objective was to increase economy and develop the railways as a commercial undertaking. Though Egypt adhered to steam traction and new units were being received in 1949, the Tunisian, Moroccan and Algerian railways were all converted to diesel traction; in Tunis especially, the changeover in 1950 was to be extensive. New diesel-electric locomotives of 1,500 h.p. were working the Kenadsa coal trains in Morocco and new wagons were imported for the phosphate traffic. A new 28 mi. line was being constructed in the Moroccan anthracite area near Djérada. In Algeria, 40 new diesel-electrics were placed in service and the expressed intention was to dispense with steam locomotives; some sections of line were being converted to electric traction.

In Tanganyika a new railway was under construction in the Southern Province as was also a branch from Kaliuwa to serve the lead mines. New locomotives for the Nyasaland-Trans-Zambesia railways were entering service and in Rhodesia the new railway board for government-owned railways took charge in November. The Beira section became Portuguese property in April 1949.

The South African railways, so long a very profitable concern, encountered financial difficulties, a deficit of £6 million being recorded for 1948 and the Rates Equalization fund, long acting as a buffer, fell 60% in five years. Technical progress nevertheless continued, as for instance in the electrification in the Belleville area; the large Prospect classification yard was being mechanized so as to handle 2,500 wagons daily; the welding of rails in long lengths of 480 ft. and 960 ft. was an adopted practice.

South America. Nationalization of the British-owned railways in Uruguay became law in Jan. 1949 and the sale



An electrically-operated time-table at Gare de Lyon, Paris, which was installed in 1949 and provided information about departure times from Paris and arrival times at thirty Savoie and Haute-Savoie towns.

of the much larger British-owned lines in Argentina was finally completed in May: the original agreement was dated Feb. 1947 and the transfer to Argentina took place in March 1948. Some regrouping of lines took place with inter-regional transfers at the beginning of 1949, a policy made possible by complete government ownership. Large orders for diesel traction units were placed by Argentina in Hungary and the United States, the former for railcars and the latter for locomotives; some of the 35 units concerned completed trials on the General Belgrano railway. The financial situation on the railways caused concern and a commission was at work to study a general revision of passenger fares and freight rates; the proposed system of charges aimed at a small surplus over cost of operation.

In Brazil, agreement was reached in April for the sale of the Leopoldina railway to the Brazilian government for about £10 million; and arrangements were made to terminate the lease of the Great Western of Brazil, a 1,040 mi. metre gauge system, already owned by the government. New railway construction continued in Brazil under the plan of the national railways department, with the primary object of linking the several state capitals and the national capital; as yet only six state capitals were linked with Rio de Janeiro by rail but the plan provided for 17 to be so connected. In traction matters new 3,000 h.p. electric locomotives were being placed in service on the former São Paulo railway, electrified on the 3,000-volt D.C. system: this section was now Brazilian-owned.

Canada. In Canada the fact that Newfoundland had become the tenth province resulted in the Canadian National railway taking over the Newfoundland railways, and in British Columbia there were renewed proposals to extend the Pacific Great Eastern railway northward. Other developments included the construction of the first mechanized classification yard by the Canadian Pacific in the Montreal area and the building of a large new freight station at Bonaventure, Montreal (C.N.R.). Diesel traction was likely to be standard in future for both the Canadian lines and the Montreal-Wells river services on the C.P. became entirely dieselized. New electric locomotives were placed in service at Montreal by the C.N. and the C.P. converted further locomotives to oil-burning in the Winnipeg-Calgary area. A royal commission was appointed to report on the dominion's transport services in Feb. 1949.

Australasia. The New Zealand government railways continued to operate at a heavy deficit; but services were accelerated and additional electric equipment was received.

The major event in Australia was the publication of the Elliot report on the Victorian railways, proposing the setting up of a Victorian Transport board, and this report was an epoch-making landmark in Australian railway history, the Victorian system was already benefiting from its publication South Australia was undertaking the gauge conversion of part of its mileage; and pulverized coal was being developed for locomotive purposes in Victoria

The Tasmanian transport situation remained acute both financially and physically, but energetic steps were being undertaken to cope with the position. (C. E. R. S.)

United States. The record for 1949 was distinctly discouraging from the point of view of the railway management, stockholders and bond holders. In comparison with 1948 there were substantial decreases in volume of traffic, operating revenues, net income and return on capital investment The greatest decline was in the last quarter of the year. The number of loaded cars moved in October was the lowest in any October in the last 30 years. The outlook for 1950 was not promising.

The decline in railway traffic was mainly due to three factors: the unsettled business conditions which slowed up production and made manufacturers and merchants reduce inventories and use caution in future commitments; the increased competition of carriers by highway, water, pipe line and air, and the strikes of coal miners, steel workers and others, which not only reduced rail tonnage in coal, coke, ore, steel and other raw materials, but also cut down the output of manufacturers dependent on these basic commodities

The net income of the railways was reduced by two unfavourable factors, the decline in operating revenues; and the inability, because of higher wage rates and advances in the prices of materials, to reduce operating expenses in proportion to the loss in operating revenues Increases in freight and passenger rates were of material assistance but they lagged behind the cost increases and were not sufficient entirely to overcome the effects of high costs The return of about 3% on capital (less depreciation) was only half the 6% minimum which railway spokesmen asserted was necessary to maintain credit and to enable the railways to finance improvements vital to the maintenance of adequate service

The increased competition with which the railways were faced was shown by the growing proportion of total inter-city tonnage carried by highway, pipe line and inland waterway carriers. According to the figures of the Interstate Commerce commission's bureau of transport economics and statistics, the railway proportion of total inter-city ton-miles fell from 66 9% in 1947 to 64 2% in 1948; the road haulage share grew from 7 8% to 8 7%; the inland waterways, including the Great Lakes, carried 14 8% in 1947 and 15 3% in 1948; and the pipe line proportion rose from 10 5% to 11 8%. Passenger services told the same tale, with air lines and private motoring as the most serious challengers.

The gross capital expenditure of class I railways on tracks, structures, terminal and communication equipment, locomotives and rolling stock in 1949 was estimated at $1,297 million. Of that amount, $325 million was devoted to fixed property and $972 million went into diesel locomotives (to replace less efficient steam power), freight cars and passenger cars of modern design Out of 1,577 new locomotives installed during the first 10 months of the year 1,524 were diesels. Of the locomotives on order on Nov. 1, the diesels numbered 812 out of 833 During the 12 months ended Oct 31, 1949, the number of additional streamlined passenger trains was 29, bringing the total number of those modern trains to 147, with a complement of 3,054 cars for 292 sets of equipment. Out of a total of 127 class I railways, 43 had one or more of such trains. Practically all the capital improvements in track and structures were financed from earnings—net income "ploughed in" instead of being declared as dividends.

On June 30, 1949, the mileage of all classes of railway in the hands of receivers or trustees was 13,736 mi., or 5·6%. On the same date in 1948 the bankrupt mileage was 15,100 mi. The Missouri Pacific, which had been in trusteeship since 1933, accounted for about one-half of the total bankrupt mileage The only notable addition to the list of bankrupt railways was the Long Island. The Central Railroad Company of New Jersey emerged from trusteeship in June.

In the field of relations between the railways and the government the following events were of note in 1949: The first step towards the implementation of the so-called "Bulwinkle bill," enacted in 1948 to legalize the conference method of fixing rail and road rates under the control of the Interstate Commerce commission, was made when the commission approved the western railways' application for confirmation of their rate-making associations and other joint agreements Applications from railways in other sections and from road haulage associations were pending at the close of the year. In the case of the western railways the commission apparently was not impressed by the view of the Department of Justice, which had opposed the enactment of the "Bulwinkle bill," that the conference method of rate-making unduly restrained competition between carriers.

The Interstate Commerce commission began holding hearings on Nov. 5 on the government claims for reparation (refunds) for alleged overcharges by railways on the large volume of government freight moved by rail during the war years The reparations, if granted in full, would require the railways affected to turn back to the government a sum estimated to be in excess of $2,000 million. The net current assets of all class I railways on Aug. 31, 1949, were $1,300 million, and further their total net income was $747 million in 1948 and $474 million in 1949 (year ended Sept. 30). The seriousness of the government claims was therefore apparent. If reparations were to be granted on the scale urged by the government, large scale railway bankruptcy would be almost certain

In order to offset wage increases and high costs of materials, the railways made several applications to the Interstate Commerce commission in 1949 for authority to increase freight and passenger rates. The commission responded favourably but not to the full extent requested In January the railways benefited by an increase of 5 2% in freight rates, authorized in Dec. 1948. This was designated as an interim increase to afford partial relief while the commission deliberated further The request had been for an increase of 13%. The commission's final decision, in August, was to permit as from Sept 1 an average advance of 9 1%, inclusive of the 5 2% interim increase effective in January. An increase of 12 5% in passenger fares, exclusive of suburban service, was sought by the eastern railroads in June. It was approved in full, and was to date from Nov. 28. On the question as to whether the railways, by such a rate advance, would be "pricing themselves out of the market," the commission accepted the opinion of railway traffic officers that losses by diversion of passengers to other forms of transportation would be much less than gains in revenue from traffic which would be held. A minority of the commission, however, expressed the view that the higher fares would not be likely to bring in additional revenue and that "vacant seats rather than inadequate fares are the real cause of passenger deficits." In general, the scale of all passenger fares in Dec. 1949 was 44% higher than in 1939 in the east and 25% higher in the country as a whole. (W. J. C.)

Chicago Railroad Fair The Chicago Railroad fair of 1949 set up a new attendance record by attracting 2,732,618

visitors. Attendance in the second year thus exceeded the 1948 total of 2,500,813 visitors and brought the total attendance for the two years of the fair to 5,233,431. As in 1948, the most popular feature of the 1949 Railroad fair was the "Wheels a-Rolling" pageant, which depicted the history of transportation over a period of nearly 300 years. Contributing largely to the pageant's effectiveness was the four-dimensional element of time. Rather than a mere three-dimensional display of historic vehicles, "Wheels a-Rolling" recreated the time in which they actually were in use and re-enacted the operation amid the authentic costumes, lighting and environmental features of each succeeding era. (L. R. L.)

RÁKOSI (ROTH), MÁTYÁS, Hungarian politician (b. Ada, Bačka, Yugoslavia, March 14, 1892), son of Joseph and Cecilia *née* Lederer, entered the Budapest Oriental academy in 1910; but in 1912 he was working as a clothing store clerk. At the outbreak of World War I he was mobilized and taken prisoner by the Russians in 1915. He returned to Hungary in 1918 and early in 1919 joined the Hungarian Communist party organized by Béla Kun. At the time of the Hungarian Soviet republic (March-Aug. 1919), he was people's commissar of commerce and assistant commissar of finance. After the collapse of the Communist regime, he fled to Moscow where from 1920-24 he was secretary of the executive committee of the Comintern. In 1925 he returned to Hungary, was arrested and sentenced to 8½ years' imprisonment. On the termination of this sentence he was re-tried in 1934 and was condemned to life imprisonment. In 1940 he was allowed to go to Moscow in exchange for Hungarian colours captured by the Russians in 1848. He returned to Hungary with the Soviet army at the end of 1944, became secretary general of the reconstructed Hungarian Workers' (Communist) party and on Nov. 15, 1945, joined the Zoltan Tildy cabinet as deputy prime minister. He retained his post in all the following cabinets presided over by Ferenc Nagy (Feb. 4, 1946), Lajos Dinnyés (May 31, 1947), and István Dobi (Dec. 10, 1948, and June 10, 1949). During all these years Rákosi, helped by the Soviet power, led an unrelenting struggle against the Smallholders' and Social Democratic parties, and the Roman Catholic Church.

RASMUSSEN, GUSTAV, Danish diplomat and statesman (b. Odense, Aug. 10, 1895). He started his career as a secretary to the legation in Petrograd (Leningrad) in 1917. He graduated in law at the University of Copenhagen in 1921 and the following year entered the Foreign Office. In 1923 he went to Moscow as a secretary of a Danish delegation to negotiate various economic matters. In 1927 he was appointed *chargé d'affaires* at Berne and in 1932-33 was counsel and advocate at the Greenland dispute before the Court of International Justice. In 1939 he was appointed counsellor to the London legation, remaining there after the German invasion of Denmark. At the beginning of 1945 he was appointed minister to Rome. On Nov. 8, 1945, he joined the Knud Kristensen Agrarian (minority) government as minister of foreign affairs. He was retained in this position by Hans Hedtoft when on Nov. 12, 1947, he formed his Social Democrat (minority) government. On April 4, 1949, in Washington, Rasmussen signed the North Atlantic treaty for Denmark.

RATIONING. During the early months of 1949 there was a distinct trend towards de-rationing in Great Britain and other European countries. This was due to an improvement of the supply position in the domestic markets, caused by the increase of production, the maintenance of imports through Marshall aid and expanding intra-European trade, and reduction in the volume of abnormal postwar demand. Wartime rationing had to be maintained so long as "too much money chased too few goods." When this ceased to be the case it was possible for the governments concerned to relax rationing. In Great Britain, the rationing of textiles was removed and this change was not followed by excessive increase of demand, except in some of the low-priced lines. The attempt to abolish sweet rationing was less successful. Owing to the inadequacy of supplies, it was found necessary to revert to rationing in August.

On the continent, too, improved conditions made it possible to relax rationing; in any case in most continental countries the system never worked as satisfactorily as in Great Britain. In Australia and New Zealand rationing of many products was maintained in order to export as much food as possible to Great Britain. Following the change of government, in Australia the rationing of petrol, tea and butter was abolished.

Towards the middle of the year the growing scarcity of dollars slowed down de-rationing, and, in certain cases, caused a reversion of the trend. In particular it was found necessary in many continental and Commonwealth countries to reinforce restrictions on use of petrol in order to save dollars. But for Marshall aid it might have been necessary to ration tobacco and other goods.

The size of rations fluctuated in many countries according to the supply position. In particular the British meat ration was liable to alterations dictated by necessity. During the early part of the year difficulties of trade negotiations with the Argentine compelled the government to reduce the ration for some time. Even factors such as the prolonged drought during the summer influenced the size of meat rations in Europe, becasue a large number of animals had to be slaughtered for lack of feeding stuffs.

Notwithstanding the setback caused by the accentuation of the dollar shortage, there was, on balance, noteworthy progress during 1949 towards the abolition of rationing. The usual rationing by purse returned. Excessive purchasing power in possession of consumers was largely curtailed by the high prices that had to be paid for uncontrolled goods, and also for controlled goods on the black market in continental countries. Even so, apart from Belgium and Switzerland, European countries had to retain rationing of essential foodstuffs.

One of the obstacles to the abolition of food rationing was the continuation of food subsidies. Free dealing in essential foods would have meant a sharp rise in their price following the abolition of subsidies. Alternatively, if price control were maintained on de-rationed food, supplies might disappear before late-comers had a chance of acquiring their fair share, as was the case with chocolate and sweets in Great Britain. During 1949 agitations in favour of the abolition of food subsidies as the preliminary step towards the abolition of food rationing continued. It came to be realized, however, in most quarters that this would not yet be possible and that any sudden change might entail grave social and economic consequences. For this reason the abolition of food subsidies was now advocated as a long-term programme to be adopted gradually. Consequently food rationing was also expected to remain in force for some time to come. (P. EG.)

RAYON AND OTHER SYNTHETIC FIBRES. In March 1949 when world capacity for the production of synthetic yarns was already one-third greater than in 1948, it was believed that by the end of the year the world's output would be 3,585,150,000 lb., and by the end of 1950, 4,032,850,000 lb.

A notable example of work on the industry's programme was the expansion of the factory at Pontypool, Monmouthshire. In April 1948 this factory began to produce a small quantity of nylon yarn. Early in 1949 it had doubled its

output and was expected to produce 10 million lb. in 1950, or ten times the 1948 production.

A rayon design centre was opened in London early in 1949 by the president of the Board of Trade, who said then that in less than 20 years the production of this industry had increased a hundredfold and its manufactures had become a major export.

In May, a team drawn from all grades in the weaving section of the industry toured the United States to study American methods of rayon weaving.

New records in output were established during the year. In 1948 the total output of yarn was 147 million lb., including all synthetics. About 1 million lb. was nylon and this proportion was expected to increase following the expansion at Pontypool.

In March 1949 the output of rayon staple and rayon yarn was higher than it had ever been. In July it reached 10,200,000 lb. and in September 12,415,000 lb. In the third quarter of the year the total output of yarn and staple reached a monthly average of 24,428,000 lb., or 33% more than for the same period of 1948.

RAYON PRODUCTION, GREAT BRITAIN, 1949
(thousand lb.)

	Staple	*Yarn*		*Staple*	*Yarn*
Jan	7,500	13,800	July	10,200	14,400
Feb	7,600	13,400	Aug	8,800	12,900
March	9,300	15,500	Sept	12,400	14,600
April	7,800	13,200	Oct	10,900	15,100
May	9,900	14,700	Nov	12,200	15,600
June	8,400	13,700	Dec	12,200	14,500

The export target for the rayon industry was raised for the end of 1949 to a monthly rate of £4,300,000, from the £4,210,000 fixed for the end of 1948. Though the monthly rate for the first quarter of 1949 was an increase of 19% over the average monthly rate for 1948, by the middle of the year firms were reporting that export business was falling off, partly because of an increase in world production and an accumulation of stocks. The output of rayon yarn continued to expand more rapidly than yarn exports, which fell in the second quarter of the year by 19% compared with the first quarter. Rayon fabrics, on the other hand, set up a new record in June, at 17,712,000 sq. yd. Progress towards the end-1949 target of £4 30 million was not promising, though the effect of devaluation in opening up markets had not yet appeared. In the first quarter the monthly rate was £3·71 million; in the second £3 68 million; and in the third £3 29 million.

The price of rayon remained low compared with cotton and wool. In March the price of viscose rayon staple went up from 16½*d.* a lb. to 18*d.* a lb. It was stated that the price of American raw cotton had gone up by 300% since mid-1939, of Egyptian Karnak by 500%, and of raw wool by about 250%, while that of rayon staple had gone up by only 80%.

Rayon, which had been subject to less government control than cotton during and after World War II, was freed from some restriction during 1949. The Board of Trade, after consultation with the rayon weavers, agreed to transfer from the Cotton board to the Rayon Weaving association responsibility for the issuing of rayon and spun rayon yarn permits to weavers, instructions as to the use of the yarns obtained and the collection of information relating to rayon, spun rayon and mixture utility fabric production. Responsibility for policy remained with the Board of Trade, which acted in close collaboration with the British Rayon federation.

Of major importance in the synthetics industry of the Commonwealth in 1949 was the decision to start making rayon staple at Cornwall, Ontario. Some $17 million was to be spent on the extension and modernization of plant and production began in August. Output was expected to be 10 million lb. by the end of the year, roughly 80% of Canada's consumption.

The Indian government showed during 1949 an increasing interest in the development of its home rayon industry and first steps were taken towards the establishment of a rayon-yarn producing mill at Allahabad.

On the continent, Germany, which in 1948 held second place in world production of rayon staple and fourth in filament yarn, and France, which was third for yarn and fourth for staple, both recorded progress, as did Finland, Norway, Sweden and Spain. Italy and Belgium both curtailed output during the year, as did the United States, the leading producer in all fields. (C. F. DN.)

United States. World production of rayon in 1949 was about 2,690 million pounds, compared with 2,477 million pounds in 1948. Of this total, the United States produced 36·9% compared with 45·4% in 1948, 56·7% in 1945 and 19·1% in 1940.

Rayon prices in the United States reflected the downward trend of other textile prices. Filament rayon averaged 73 cents per pound as against the average of 75 cents per pound in 1948. Spun rayon yarn prices experienced a greater drop, the average for the year being 72 cents per pound as against the 1948 average of 90 cents per pound.

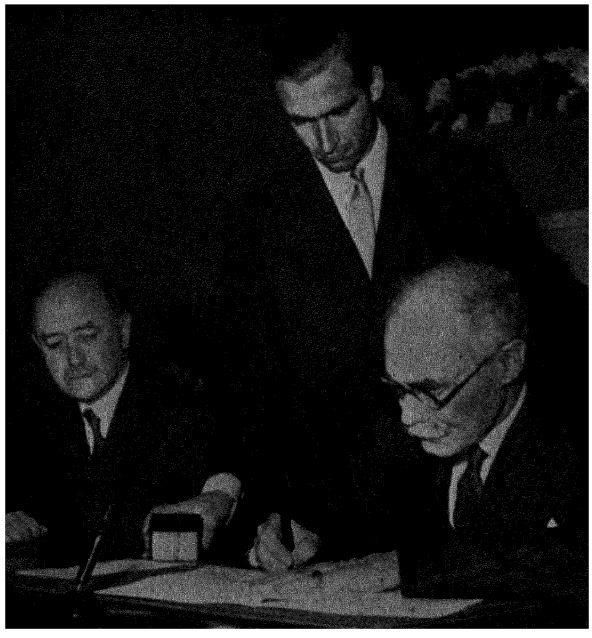
As was the case with rayon yarns, output of rayon fabrics in the U.S. also decreased. Total production was 1,950 million yards, 11% below the 1948 production of 2,190 million yards.

Production of all-nylon fabric in the U.S. jumped from 32 5 million yards in 1948 to 87·7 million yards in 1949 (last three months estimated). In addition, there was a large quantity of nylon-and-acetate-rayon fabric made for which no production statistics were available. A mixture of 12% nylon and 88% acetate rayon was normally used for this fabric. (*See* also TEXTILE INDUSTRY.) (I. L. BL.)

RED CROSS. The outstanding event for the Red Cross world in 1949 was, strictly speaking, not a Red Cross action but the meeting at Geneva, Switzerland, April 21-Aug. 12, of representatives of 58 nations for the revision, drafting and signature of what are known as the humanitarian conventions. The three conventions revised were: Convention for the Adaptation of Naval Warfare to the Principles of the Geneva Convention (1907); Convention for the Protection of Sick and Wounded of Armies in the Field (1929); and Prisoner of War Convention (1929). A fourth—and new—Convention for the Protection of Civilian Persons in Time of War, drafted at a meeting of representatives of national Red Cross societies in Geneva in Aug. 1946 and approved by the 17th International Red Cross conference which met at Stockholm in 1948, was adopted. Formal ratification of these conventions took place at Geneva on Dec. 8, 1949.

Next in importance in the Red Cross world during 1949 were relief activities undertaken by the International Red Cross at the request of the United Nations. On Jan. 1 the League of Red Cross Societies assumed responsibility for the care of 330,000 Palestine refugees in Syria, Iraq, Lebanon, Jordan and Egypt; the International Committee of the Red Cross for 395,000 in northern and central Palestine; and the American Friends Service committee for 212,000 in southern Palestine. This programme was financed at a cost of approximately $2 million monthly by voluntary national contributions through the United Nations.

A second mandate given to the International Red Cross by the U.N. general assembly in Paris, Dec. 1948, was for the repatriation of 25,000 Greek children separated from their families and living in Czechoslovakia, Hungary, Yugoslavia, Bulgaria and Rumania. Lists of the names and descriptions of approximately 6,000 of these children compiled by the Greek Red Cross were transmitted by the International Red



Sir Robert Craigie (right), head of the British delegation, signing the final act of the International Red Cross conference at Geneva, Aug. 12, 1949.

Cross to the Red Cross societies of the above-mentioned countries for use in identifying the children but at the end of Oct. 1949 only 138 in Czechoslovakia had been identified. (*See* also GREECE)

Appeals also were received by the League of Red Cross Societies from the Red Cross societies of Poland and the U.S.S.R. to assist in identifying and repatriating Polish and Soviet children in the western zones of Germany and Austria.

Additional relief actions were undertaken by the League of Red Cross Societies in India and Pakistan (assistance to 600,000 refugees); Greece (706,000 refugees); Germany (11 million refugees); Ecuador (earthquake) and Guatemala (floods). Assistance to the International Refugee organization in the resettlement of displaced persons continued.

Membership in the League of Red Cross Societies was increased to 68 nations by the addition of the Red Cross societies of Ethiopia and Jordan. (*See* also PRISONERS OF WAR.) (H. W. DG.)

REFUGEES. Europe. Progress in the repatriation and resettlement of the Polish, Baltic (Latvian, Lithuanian and Estonian), Ukrainian, Yugoslav, Jewish and other refugees and displaced persons remaining in Germany, Austria and Italy as the aftermath of World War II, continued during 1949. Their re-establishment in ways of living more normal than those of the displaced persons' camps, which had been the abode of many since 1939, was the special concern of the International Refugee organization (I.R.O.) which came into formal existence as a specialized agency of the United Nations in Aug. 1948. This organization and its predecessor, the Preparatory Commission for the I.R.O., had undertaken in July 1947 to attack the problem of over 1,000,000 refugees and displaced persons in Central Europe who had refused repatriation to their home countries of eastern Europe because of political changes resulting from the war.

Italy and Switzerland joined the organization during the year and added their efforts to those of the 16 other nations—to make possible the application of over $150 million in resources annually to the solution of the problem. These funds were used to provide care and maintenance in camps, clothing, medical services, vocational training, a tracing service for missing persons and, most important, transportation to overseas countries of resettlement. The United States contributed over $70 million to the I.R.O. budget for the year 1949-50.

During 1949, 318,096 were resettled or repatriated from Germany, Austria and Italy, but on Dec. 31 the I.R.O. care was still being extended to 588,768 refugees. The I.R.O. maintained a fleet of 35 ships engaged in the movement of refugees to overseas countries such as Australia, Brazil, Canada, the United States and Venezuela. The movement of Jewish refugees to Israel which totalled over 143,000 since 1947 was organized by the Jewish Agency for Palestine with funds supplied by the I.R.O. By Dec. 31, 1949, less than 40,000 Jewish refugees remained in central Europe awaiting disposition. Over 100,000 persons were transported to the United States by I.R.O. under the provisions of the U.S. Displaced Persons act of 1948, which provided for the admission of 205,000 by June 30, 1950. Efforts to amend the act persisted in the U.S. congress. Amendments increasing the numbers to be admitted to 339,000, eliminating the preferences for farmers and for persons from "*de facto* annexed" areas and moving the eligibility date forward from Dec. 22, 1945, to Jan. 1, 1949, passed the House of Representatives, but remained under consideration by the Senate. During 1949 approximately 85,000 refugees were moved to Australia and 27,500 to Canada.

At the meetings of the general council of I.R.O. in July and Oct. 1949 in Geneva plans were adopted looking toward the conclusion of operations; it was envisaged that all of those qualified for admission to receiving countries of immigration would have been resettled by the spring of 1951. Consequently it was decided to discontinue care and maintenance of refugees in the camps after June 30, 1950, and to continue thereafter the resettlement of those who were in process of movement by that date. These decisions left unresolved two important problems affecting refugees, namely provision for the continuing care of the non-resettleable refugees, including some 26,000 persons who would require institutional care after June 30, 1950, and the legal protection of all refugees pending their acquisition of a citizenship in a new country of residence which would give them normal civil status essential to self-dependence.

About 180,000 non-resettleable refugees consisted of the aged and infirm, those suffering from tuberculosis, the blind and deaf, and those otherwise physically handicapped and unable to meet the high health requirements of immigration countries, or lacking sponsors to guarantee that they would not become public charges after admission. Some of the member governments of I.R.O. such as Belgium, New Zealand, the Netherlands, Norway and the United Kingdom were giving serious consideration at the end of the year to the acceptance of limited numbers of these permanently dependent refugees. Israel offered to receive all remaining handicapped Jewish refugees in consideration of financial assistance from I.R.O. in the construction of hospitals and other institutions for their permanent care. The I.R.O. allocated $22 million in its budgets for the years 1949-50 and 1950-51 as its contribution toward the provision of continuing care for the non-resettleable group.

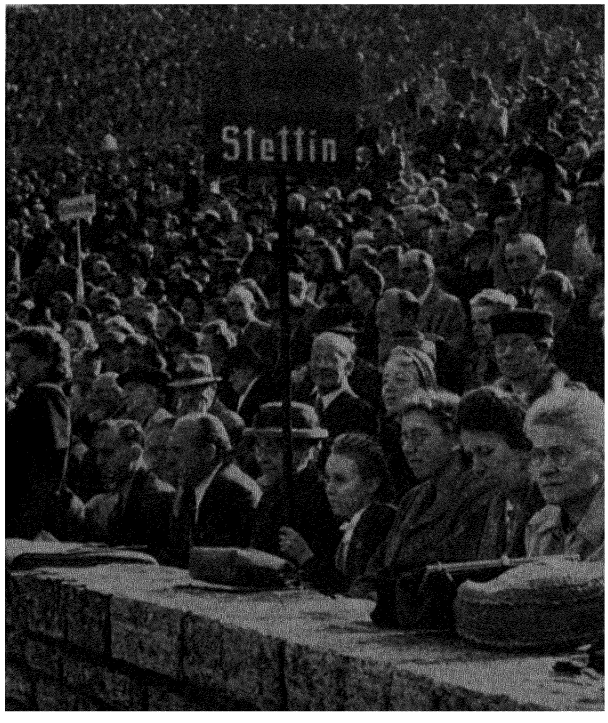
The continuing legal protection of refugees after the termination of I.R.O. services was considered by the Economic and Social council of the U.N. at its ninth session in Geneva (July 1949) and by the general assembly at its fourth session in New York (Nov.-Dec. 1949). Following the pattern established by the League of Nations the general assembly decided to establish as from Jan. 1, 1951, the Office of High Commissioner for Refugees for a period of three years,

with headquarters in Geneva. The Economic and Social Council also established an *ad hoc* committee to convene in Jan. 1950 at Lake Success to revise and to consolidate in one draft convention all the existing international arrangements, agreements and conventions providing for the protection and documentation of refugees, notably the Geneva conventions of 1933 and 1938, and the London travel agreement of 1946.

Middle East. The U.N. Relief for Palestinian Refugees, created by the general assembly of the United Nations at its third session in Paris in 1948, administered relief during the year to 750,000 refugees from the conflict in Palestine and an additional 200,000 Arabs whose means of livelihood in Arab Palestine, Jordan and the Gaza area had been affected by the armistice agreements still in effect at the end of the year. Thirty-three governments had contributed a total of $32 million in funds and supplies to maintain, house and clothe these refugees pending a political settlement which the Palestine Conciliation commission, also established by the United Nations, was endeavouring to achieve. The direct administration of relief under the auspices of the U.N.R.P.R. was conducted by the International Committee of the Red Cross, the League of Red Cross Societies and the American Friends Service committee, assisted by many other voluntary agencies.

As the political settlement was delayed and the repatriation of the refugees to their former homes in Israel and Israeli-held areas appeared unlikely to take place, the Palestine Conciliation commission organized the Economic Survey Mission for the Middle East which recommended to the fourth session of the general assembly of the United Nations (New York, Nov.-Dec. 1949) the creation of a new agency to undertake a works programme for the refugees which would supplant the relief programme by Dec. 30, 1950.

The general assembly voted on Dec. 8, 1949, to establish the U.N. Relief and Works Agency for Palestine Refugees to take over the relief activities of the U.N.R.P.R., scheduled to discontinue operations by April 1950. A budget of $54·9 million for 18 months was adopted, including $33·7 million for relief and works projects during 1950 and $21·2 million for works projects for the period Jan. 1 to June 30, 1951. This action of the general assembly recognized that continued assistance to Palestine refugees was necessary to prevent starvation and distress and to further peace and stability in the area, and that constructive measures looking toward the rehabilitation of the refugees would have to be undertaken to replace the administration of direct relief. The resolution provided that the director of the agency was to be appointed by the secretary-general of the U.N. in consultation with the members of an advisory commission consisting of representatives of France, Turkey, the United Kingdom and the United States, and that he was to be responsible directly to the general assembly. (G. L. W.)



Refugees from Stettin, in prewar Germany but now in Poland, at an open-air meeting in Berlin, Oct. 1949.

REPARATIONS. Germany. Important agreements made during the year by the United States, France and the United Kingdom substantially lowered the level of future reparations removals from Western Germany and made possible an early termination of the programme.

The Economic Co-operation administration announced on Jan. 18 that Paul Hoffman had accepted the recommendations that had been made on Jan. 12 by the industrial advisory committee headed by George M. Humphrey urging the retention in Germany of certain equipment in 167 of the 381 plants which it had surveyed. On Feb. 23, Lewis Douglas, U.S. ambassador in London, initiated formal discussion of the recommendations with British and French officials in conjunction with a report from the military governors of the three western zones on a revised list of prohibitions and restrictions which should be applied to German industry on security grounds. In the course of those negotiations 5 steel plants, 3 chemical plants and certain equipment in another steel plant were removed from the list of projected exemptions at the insistence of the British and French governments, thus reducing the number of exempted plants from 167 to 159.

Formal announcement of the agreement was made in Washington, London and Paris on April 13. The U.S. State Department pointed out that the revision had been made in order to bring the dismantling programme into harmony with the European Recovery programme. Most of the 159 plants were located in the British zone and the amount of equipment which had been scheduled for removal from them varied from a single piece of equipment to the entire equipment of an operating factory. The affected plants included 32 plants in the steel industry (only 5 of which produced raw steel), 88 metal working plants, 32 chemical plants and 7 non-ferrous metal plants. It was estimated that the exemptions would reduce by 10% the total value of all plants, including war plants, scheduled to be removed as reparations.

The policy of taking reparations from Germany continued to be attacked, both in Germany and elsewhere, including the U.S. congress. German protests ranged from press propaganda to strikes by workers and official opposition. Soon after the inauguration of the German federal republic, the chancellor, Dr. Konrad Adenauer, began pressing Allied representatives for further concessions and at their meeting in Paris on Nov. 9-10, Dean Acheson, Ernest Bevin and Maurice Schuman agreed to authorize their respective high commissioners in Germany to discuss the subject of dismantling with Dr. Adenauer with a view to final settlement of the problem. The agreement reached was initialled at Bonn on Nov. 22; it provided for the removal from the reparations list of 11 synthetic oil and rubber plants, 7 steel plants and the cessation of all dismantling in western Berlin and, with certain exceptions, at the I.G. Farben plant at Ludwigshafen-Oppau.

It was reported on Sept. 15 that the U.S., France and the United Kingdom had agreed not to make any further deliveries of industrial plant to the U.S S.R. as reparations, and on Dec. 3 the 19 members of the Inter-Allied Reparation agency were reported to have decided to divide among themselves the German industrial equipment stored in Western Germany which had originally been destined for the U.S.S.R. under the Potsdam agreement.

Austria. At its meeting in Paris from May 23 to June 20, the council of foreign ministers agreed that reparations should not be exacted from Austria, thereby rejecting Yugoslavia's claims. It was stipulated, however, that the U.S.S.R. should receive from Austria the sum of $150 million over a period of six years, with the additional proviso that, although there should be relinquished to Austria all property, rights and interests claimed as German assets or war booty, the U.S S.R. should receive outright all the assets of the Danube Shipping company in Bulgaria, Hungary, Rumania and eastern Austria as well as the possession of 60% of Austria's oil properties for a period of 30 years.

Japan. On May 12 the Far Eastern commission was advised by Major General Frank R. McCoy of the decision of the U.S. government to terminate the Advance Transfer programme, to take no further unilateral action to make possible additional reparations removals from Japan and to submit to the commission new policy proposals which would have the effect, if adopted, of precluding further industrial reparations removals from Japan during the occupation. General McCoy's statement emphasized that (a) the burden of further reparations removals from Japan could detract seriously from the occupation objective of stabilizing the Japanese economy and permitting it to move toward self-support; (b) the failure of the commission to agree upon a reparations shares schedule made it impossible to implement existing commission decisions regarding reparations; and (c) Japan had already paid substantial reparations through expropriation of its former overseas assets and, in smaller degree, under the Advance Transfer programme.

The U.S. decision was translated into U.S. joint chiefs of staff interim directive 104, dated May 13, for implementation by General Douglas MacArthur. It provided that "items already processed" under the Advance Transfer programme "will be made available for removal", and was interpreted to include reparations already packaged and in the process of being packaged as well as items allocated but not yet packaged.

Actual deliveries under the Advance Transfer programme from the date of its initiation to Nov. 30 were as follows (in thousands of yen, 1939 values):

Claimant	*Segment 1**	*Segment 2**	*Segment 3*	*Total*
China	51,492	682	6,254	58,428
Netherlands	11,557	226	4,051	15,834
Philippines	18,527	218	2,242	20,987
United Kingdom	9,723	197	9,715	19,635
Total	91,299	1,323	22,262	114,884

* Deliveries completed and account closed

Total allocations from segment 3, the only segment from which deliveries were still to be made at the end of the year, were 63,256,641 yen (including deliveries already made as indicated in the table above). Allocations by country were as follows: China, 27,848,082 yen; Netherlands, 6,992,816 yen; Philippines, 13,222,869 yen; United Kingdom, 15,192,874 yen.

BIBLIOGRAPHY. Inter-Allied Reparation agency, *Report of the Secretary General for 1948* (Brussels, 1949); Far Eastern commission, *Second Report of the Secretary General, July 10, 1947-Dec 23, 1948* (Washington, 1949). (J. W. MW.)

REPRESENTATIVES, HOUSE OF: *see* CONGRESS, U.S.

REPUBLICAN PARTY, U.S.: *see* POLITICAL PARTIES, U.S.

RESTAURANTS: *see* HOTELS, RESTAURANTS AND INNS.

RÉUNION: *see* FRENCH UNION.

REYNAUD, PAUL, French statesman (b. Barcelonnette, Basses-Alpes, Oct. 15, 1878). After receiving his doctorate of law from the University of Paris, he began his career as a lawyer. He joined the moderately conservative Democratic Alliance party, was elected a member of the Chamber of Deputies for the *département* of Basses-Alpes, 1919-24, and for Paris in 1928, 1932 and 1936. He was minister of finance (March-Dec. 1930), minister of colonies (Feb. 1931-Feb. 1932), vice premier and minister of justice (Feb.-May 1932) and for seven months minister of justice and later of finance (April 1938-March 1940). On March 21, 1940, he became prime minister and minister of foreign affairs; he reshuffled the cabinet on May 18 by taking over the portfolio of national defence from Edouard Daladier (who now became minister of foreign affairs) and appointing Marshal Philippe Pétain as vice premier. On June 6 he dropped Daladier, took back the portfolio of foreign affairs, but resigned on June 16, to be succeeded by a capitulation government headed by Pétain. Arrested on Sept. 7, 1940, he was interned, then detained in a fortress after trial at Riom (Oct. 1941); in Nov. 1942 he was handed over to the Germans who transported him to the Oranienburg concentration camp. At the beginning of 1945 he was transferred to the Tyrolean Alps where he was set free by the 7th U.S. army on May 6. He was elected on June 2, 1946, by the *département* of Nord as a member of the second Constituent Assembly and on Nov. 10, 1946, of the National Assembly. He was minister of finance in the André Marie cabinet (July 26-Aug. 28, 1948). During 1949 he emerged as the most formidable critic of the Queuille and Bidault governments.

RHEE, SYNGMAN (REE SYN-MAN), Korean political leader (b. Whanghai province, Korea, April 26, 1875), received a classical Chinese education and then enrolled in a Methodist mission school in Seoul. Imbued with democratic ideals, he joined an Independence club in 1894 and founded the *Independent*, Korea's first daily newspaper. In 1897 he led a mass demonstration of students against the Japanese, was arrested and sentenced to life imprisonment. He became a Christian convert, and while in prison wrote a book, *Spirit of Independence*. Released in a 1904 general amnesty, he travelled to the U.S., where he studied at Harvard and Princeton. He returned to Korea in 1910 to organize resistance to the Japanese occupiers. Discovered, he fled to Hawaii where he directed the Korean Christian institute until 1939. On March 1, 1919, a group of Korean patriots signed a declaration of independence, set up an exile government in Shanghai, China, and elected Rhee president. He was regularly re-elected until 1941. To win U.S. recognition of Korean independence claims, he went to Washington during World War II. In 1945 he returned to Korea. Rhee was elected first president of the Korean (southern) republic by the national assembly on July 20, 1948, and inaugurated four days later. On Aug. 7-8, 1949, he met Chiang Kai-shek at Chinhae bay, south Korea.

RHEUMATISM: *see* ARTHRITIS.

RHODESIA, NORTHERN: *see* NORTHERN RHODESIA.

RHODESIA, SOUTHERN: *see* SOUTHERN RHODESIA.

RICE: *see* GRAIN CROPS.

RICHARDSON, SIR RALPH DAVID, English actor (b. Cheltenham, 1902) was educated at Xaverian

college, Brighton, and made his first appearance at Brighton in 1921. Until he joined the Birmingham repertory theatre in 1925 he toured the provinces in Shakespeare repertory; and in 1926 made his first London appearance as Arthur Varwell in *Yellow Sands*. He subsequently toured in South Africa, 1929, in the United States, 1936, in Germany and again visited New York, 1946-47. He appeared in his first film, *The Ghoul*, in 1933. In Sept. 1939 he joined the Fleet Air Arm, becoming a lieutenant, 1940, and a lieutenant commander, 1941. He was released from the Navy in 1944 to act and direct drama for the Old Vic company. He appeared with the company in each of the seasons from 1944 to 1947, playing among other parts, Peer Gynt, Bluntschli in *Arms and the Man*, Henry VII in *Richard the Third*, Falstaff in *Henry IV*, Lord Burleigh in *The Critic*, Cyrano in *Cyrano de Bergerac* and Face in *The Alchemist*. More recent films in which he appeared were *School for Secrets* and *Anna Karenina*. In Feb. 1949 he opened in *The Heiress*, by Ruth and Augustus Goetz, at the Haymarket theatre, London. He was knighted on Jan. 1, 1947.

RIFLE SHOOTING. The King's prize in Great Britain for 1949 was won by Captain E. Brooks from an entry of 1,105 at Bisley, Surrey. Competitors from Canada, South Africa, India, New Zealand and several colonies and protectorates of the Commonwealth were among the 1,430 persons who competed in the annual tournament for full bore (·303 calibre) rifles. Almost 1,000 shot in the small bore (·22 calibre) events, G. A. J. Jones of Ilford, Essex, winning the Earl Roberts British small bore championship

Largest of the non-national meetings was that of the R.A.F. Small Arms association, also held at Bisley, with 1,400 entries. The National Small Bore Rifle association held its annual Scottish meeting at Aberdeen in May with a record entry of 460, when a Scottish-born London policeman won the Scottish individual championship.

Shooting with rifles and pistols was organized during 1949 in Great Britain and the Commonwealth by the National Rifle association and by the National Small Bore Rifle association. There were 4,600 rifle clubs, 1,000 of which were for full bore (·303 calibre) shooting. In addition to the prize meetings the Small Bore association organized numerous competitions under postal conditions for juniors, women, factories and for the services. (A. J. P.)

RIO DE JANEIRO. Capital and second port of Brazil, the largest Portuguese-speaking city of the world. Area: *c.* 60 sq. mi. (out of 451 sq. mi. of the Federal District); pop.: (1940 census) 1,563,787, (1949 est.) 2,091,160.

Arnaldo Mendes de Morais, prefect (mayor) of Rio, remarked in 1949 that Brazil was " the land of the day after to-morrow—and, he added, " don't forget that the day after to-morrow is a holiday." That was the prevailing spirit in glamorous and easy-going Rio during 1949, as it always had been in the past; but the city continued to grow. The construction of skyscrapers progressed exuberantly, and it was estimated that investment in real-estate absorbed at least two-thirds of the people's savings. A large U.S. department store, equipped with escalators (a novelty in Rio), was opened amidst considerable public excitement and served to encourage local shop-keepers to Americanize their selling methods; but although the purchasing power of a minority of *cariocas* was very high, the standard of living of the majority of the population declined during 1949 as a result of inflation, and imported goods were a luxury that only the minority could afford. The Rio Spinning and Weaving syndicate appealed to the minister of finance to assist the textile industry (the most important of local industries) because production was now exceeding demand. The government's ambitious hydro-electric projects had not yet materialized and Rio continued to suffer a shortage of water and electricity. An unforgettable event of the year was a traffic jam which, one day in September, immobilized 200,000 people and 10,000 motor cars from early morning until dusk. (G. P.)

RIO DE ORO: *see* SPANISH COLONIAL EMPIRE.

RIO MUNI: *see* SPANISH COLONIAL EMPIRE

ROADS. In Britain retrenchment in public expenditure was the keynote of 1949 and, particularly after the devaluation of the pound in September, the activities of road engineers were severely curtailed. In very few areas did funds permit any notable steps towards the achievement of a national road system compatible with the traffic requirements of the present century. Attention had perforce to be concentrated in the main upon the conservation of existing carriageways by the most modern and economical method of re-surfacing and re-dressing. Long term schemes for execution in more prosperous days continued to be studied; the few major works in progress were selected for their direct utility in stimulating the industrial welfare of the less prosperous regions. Conspicuous among these was south Wales where the industrial advance already accomplished was shown by the establishment of some 600 new enterprises since 1945. The long term programme for the transformation of communications between south Wales and the midlands entailed the ultimate construction of about 120 mi. of motorway, new road bridges over the Severn and Wye rivers and the modernization of some 140 mi. of trunk roads, at a total cost of about £35 million. On June 17, 1949, the first sod was cut of a section of new trunk road near Merthyr Tydfil forming an instalment of this comprehensive Welsh project and furnishing a much-needed eastern by-pass about four mi. long to Merthyr Tydfil and Dowlais. In Scotland 15 new hydro-electric schemes afforded widespread employment for road makers in the diversion of highways and the building of new bridges. The creation of new and the enlargement of existing aerodromes entailed extensive road works and road diversions in various parts of the country. In London the preparations for the Festival of Britain to be held in 1951 included much needed improvements of road communications in south London between Waterloo and Westminster bridges, as well as on the other side of the river around Parliament square.

Test-borings were taken for the foundations of the long deferred Forth road bridge near Edinburgh.

For the promotion of public safety a " Pedestrian Crossing Week " was held when various patterns of crossing were installed in the streets, including the " zebra " type which seemed successful in attracting notice with its conspicuously striped markings. It was unfortunate however that so much uncertainty should still have prevailed in the public mind as to the respective priority of pedestrians and motorists in the use of crossings; hesitation defeated their purpose. The minister announced the holding of a " Children's Safety Week " in March 1950. (*See* ACCIDENTS.)

In Sept. 1949 was published the first report of the Road Research board upon its postwar activities in Great Britain. Road safety and traffic flow figured largely among its studies, the problems of " dazzle " were also in course of investigation, as were the extended application of mechanical plant to operations of road construction and road repairs.

Experiments with army vehicles were made on a disused airfield, in order to study traffic flow in relation to road design; and the R.A.F. School of Photography and the Royal Aircraft establishment co-operated in taking aerial photographs of traffic in central London. Traffic and pedestrian flow was also studied by means of films. The importance of

soil as an integral part of road structure was emphasized, and extensive experiments in bituminous surfacings took place on 30 sites.

Wide openings for economy should have been discoverable in the field of road transport in Great Britain where the annual outlay on road construction and maintenance exceeded £100 million and the operating cost of road transport approximated to £300 million. A remarkable service rendered by road transport in Nov. 1949 was the conveyance from London to Cheshire of a metal tube 84 ft. long and 10 ft. 8 in. in diameter, weighing 115 tons. (C. H. Br.)

Europe. Plans for an international network of main highways for Europe were advanced materially under the guidance of the Economic Commission for Europe (E.C.E.) of the United Nations. At a meeting held in Geneva in March, 12 governments and the occupation authorities of the western zones of Germany reached final agreement on a network of traffic arteries designed to meet existing needs and anticipated traffic requirements for the next 10 to 15 years.

Routes from Helsinki to Marseilles, from Edinburgh to Rome, and Paris to Warsaw were among the many included. Standard designs for three categories of roads in the system were agreed upon. The participating governments began studies of the conditions upon which the construction of the road network could be undertaken and financed.

U.S.S.R. Detailed reports on road conditions in the U.S.S.R. were not available. The newspaper *Izvestia* reported that there were only 90,000 mi. of roads and that the road-building programme was being accelerated. Lack of good highways was a serious problem. According to *Izvestia*, 138 road-building organizations were to be in operation in 1949. Each would be expected to build 30 mi. of surfaced roads and 60 mi. of improved dirt roads annually. This would result in the improvement of 12,420 mi. a year.

Turkey. The outstanding example of progress toward a modern system of highways was found in Turkey. Studies were made of highway needs, a system was planned, laboratories and machine shops were established, training courses were begun for machine operators, inspectors and other workers and actual construction was started. In 1948 the Turkish government expended $13 million on labour and materials and the programme was enlarged in 1949. Assistance had been given by the United States as part of the Turkish Aid programme by allocation of $5 million and a loan of equal amount for purchase of machinery and equipment. A group of engineers assigned by the United States government assisted the Turkish government in the various phases of the work.

India. The government of India found it necessary to cut back on its original plan to spend $90 million on a national-highway system. In the fiscal year 1949-50 it planned to spend $5·4 million for new projects and $6 4 million for maintenance. The expenditure at the close of the fiscal year 1949-50 would be only about one-third of that originally planned.

There were gaps of 1,802 mi. and a number of unbridged rivers on the system. A programme to be completed in the near future provided for the closing of 917 mi. of these gaps and the bridging of several streams. The need for highway transport was so great that negotiations were being conducted to permit motor vehicles to cross some of the larger streams on railroad bridges. Construction of a bridge on the route between Bombay and Calcutta that would cost about $3 million was begun.

Republic of the Philippines. The rehabilitation of war-damaged highways, financed by the government of the United States, progressed rapidly during the year. This work, authorized in 1946, resulted in the completion of 65 mi. of highways and more than a score of bridges by July 1949.

Canada. Non-urban highway construction was to be completed at a cost of $234 million. Interest was centred particularly on completion of the 4,300-mi. Trans-Canadian highway from Halifax to Vancouver. There were 1,700 mi. still to be constructed.

Construction of a $13·5 million highway and railroad bridge over the Strait of Canso, which separates Cape Breton Island from the mainland of Nova Scotia, was assured by the Canadian government. A board of engineers reported that it was feasible to bridge the strait, which is 3,000 ft. wide, 200 ft. deep in places and subject to strong tidal currents.

United States. Highway work progressed at a more rapid rate than in any year since the end of World War II. In the first ten months of 1949 state highway departments awarded contracts for 40,181 mi. of construction to cost more than $1,000 million. The figures included 17,145 mi. of federal and federal-aid construction. In the fiscal year ending June 30, 1949, 21,032 mi. of highway were completed in the programme involving federal funds, at a cost of $762,913,000 The federal assistance amounted to $401,968,000.

It was estimated that highway construction expenditures by all agencies in 1949 would amount to $1,705 million and that $1,295 million would be expended on maintenance.

Highways of all classes were improved, the greater part of the work being to modernize old, worn-out highways to make them suitable for modern traffic. In numerous cities expressways were built to permit the flow of traffic at speeds of 35 to 50 m.p.h. without interruption or conflicts of any kind. Cities where large projects were under way included New York, Pittsburgh, Washington, Atlanta, San Antonio, Houston, Dallas, Fort Worth, Detroit, Chicago, Oakland and Los Angeles.

In June the Bureau of Public Roads reported to congress that serious deficiencies existed in the national system of interstate highways. This system, which included 37,800 mi. of the most important highways of the country, carried 20% of the nation's traffic.

All but 1,900 mi. of the 31,831 mi. of the system in rural areas required improvement to bring these routes up to standards recommended for existing volumes of traffic. Of the 5,969 mi. of roads and streets in urban areas, all but 398 mi. required some degree of improvement. The cost of improvement was estimated at $11,000 million.

Mexico. Completion of the Inter-American highway across the country to the Guatemalan border was scheduled for the end of the year and the important main highway from Mexico City to Juarez on the border opposite El Paso, Texas, was nearing completion. Work progressed on the Pacific coast-Mexican highway, a 1,640 mi. route down the coast to Guadalajara, and then inland to Mexico city.

Inter-American Highway. The Inter-American highway extended from Laredo on the border between Mexico and the United States to Panama city, a distance of 3,200 mi. The highway was not yet suitable for travel beyond southern Mexico. There were three large unimproved gaps—one about 80 mi. long was in southern Mexico and western Guatemala. Only the Mexican portion was nearing completion although work was in progress in Guatemala. Provision had not been made for closing the other gaps, about 65 mi. in northern Costa Rica and about 150 mi. in southern Costa Rica and northern Panama. Near the end of 1949 87% of the highway was passable at all times, 4% was passable in dry weather only, and 9% was impassable.

South America. Good progress was made in several countries of South America. The section of the Pan-American highway along the west coast of the continent remained passable by vehicles but not suitable for tourist travel. Much improvement in the road and provision of tourist facilities

would have to be made before long-distance travel could be recommended. However, the highway was of great service for local travel and was used to some extent for travel between countries. Ecuador began the construction of a 69-mi. highway to complete a branch from the Pan-American highway at Quito to the seaport Esmeraldas.

In Brazil the highway programmes directed by the national and state governments gained momentum. The national road organization reported in July 1949 that 430 mi. had been completed in the preceding 12 months. The national highway fund for 1949 amounted to $275 million and other funds available to the national organization brought the total to $360 million. Important sections of the national system of highways, which also formed a part of the Pan-American Highway system, were under construction. Tunnels on the four-lane divided highway connecting São Paulo with Santos were to be completed before the end of the year. In northern Brazil a new highway from Natal to Recife reduced travel time from 11 to 6 hr. Between Natal and João Pessoa the old route, 185 mi. in length, was shortened by 58 mi.

In Venezuela plans were made for the surfacing of 500 mi. of existing roads and the construction of 400 mi. of new roads. A major highway project was the long-planned road between Caracas and the main seaport and airport at La Guaira. A four-lane concrete highway to replace the old narrow mountain road and reduce the distance from 20 to 10 mi. was begun. (T. H. McD.)

ROMAN CATHOLIC CHURCH. The year 1949 was dominated once again by the sharpening conflict with international Communism and, historically speaking, the most important event of the year was the decree issued by the Holy Office on July 13, declaring that it was forbidden for Catholics "to enlist in or show favour to the Communist party" or "to publish, read or disseminate books, newspapers, periodicals or leaflets in support of Communist doctrine and practice, or to write any articles in them;" and that those "who profess, and particularly those who defend and spread, the materialistic and anti-Christian doctrine of the Communists *ipso facto*, as apostates from the Catholic faith, incur excommunication" This decision was the cause of much discussion; in France, for instance, some five million people had been in the habit of voting Communist at election time, including, inevitably, many Catholics who would not lightly consider being excommunicated; in Italy itself some three millions had voted Communist in 1948.

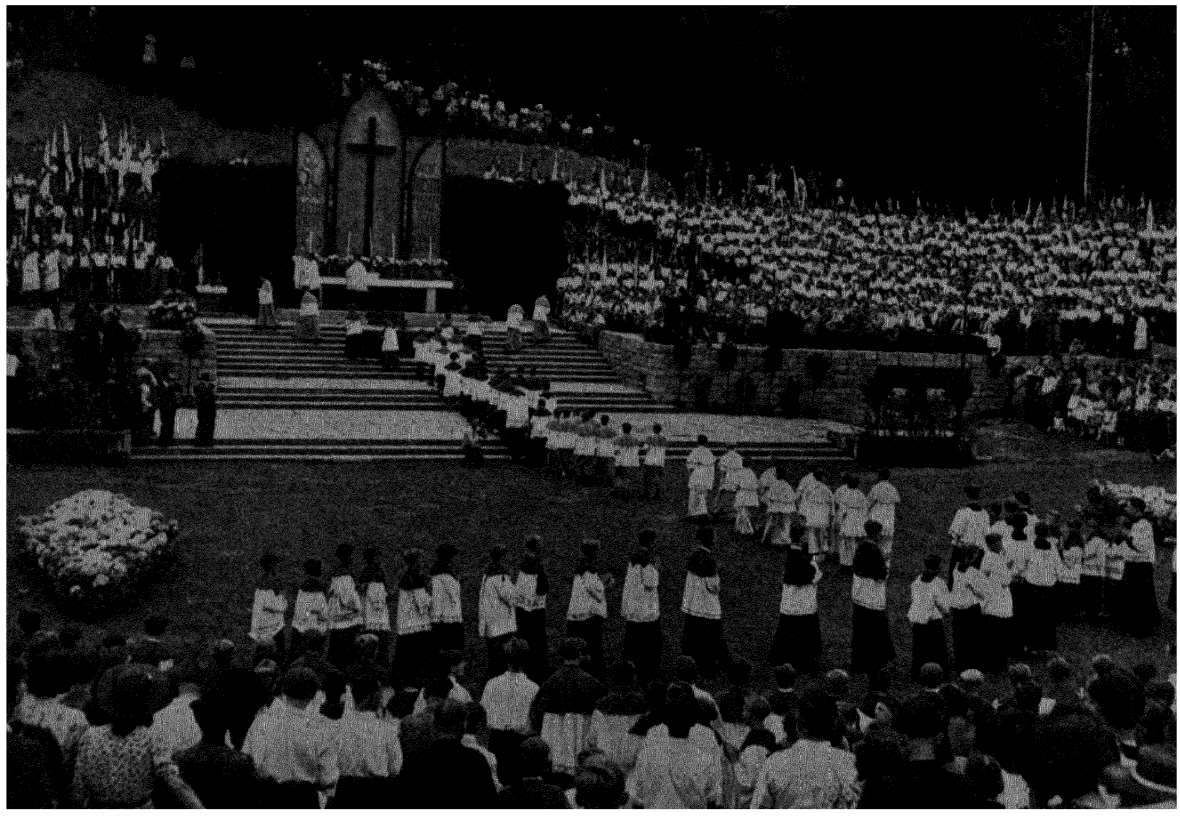
In France the cardinals and archbishops showed themselves perhaps a trifle embarrassed by the decree, when they came to expound it to their people in the joint pastoral letter issued after their meeting on Sept. 8, insisting very carefully that, although the Church condemns Communism, "she wishes steadfastly to serve the cause of the working class." Similar expositions came from other national hierarchies—the Belgian, for instance—and from individual archbishops and bishops in pastoral letters; but by the end of the year there was nothing to suggest that the decree had had any consequences of the kind that some had expected, in alienating the Church from the industrial working classes. It is true that the only important elections by which the effects might have been tested between July and the end of the year—those in Germany and Austria—were ones in which Communism was in any case largely discredited on other grounds: but the year was one in which, on the contrary, the Church made important progress in gaining the confidence of industrial proletariats, never wholly won since the industrial revolution began.

The *Katholikentag* at Bochum, in the Ruhr, in September, was significant for reasons that extended outside Germany; for just as Marxism had been born in the Ruhr to spread throughout industrial Europe, so also much Catholic social doctrine of far wider application had been worked out there, in the days of Bishop Wilhelm Emanuel von Ketteler of Mainz. It was important, therefore, that at Bochum in 1949, in the presence of very great numbers of German Catholics, the Church should have become in some degree identified with a new approach to the problem of industrial relations. A resolution was passed according to which labour ought to have a share in both the management and the profits of industry. Cardinal Joseph Frings, archbishop of Cologne and chairman of the Fulda conference, subsequently expressed his approval in principle; and Archbishop Lorenz Jaeger of Paderborn described the resolution as one of "far-reaching and almost revolutionary importance." It was interesting to find a French bishop, Mgr. Alfred Ancel, an auxiliary to Cardinal Pierre-Marie Gerlier at Lyons, speaking in a similar sense in the following month, when he addressed a large meeting in the Bourse de Travail in the industrial town of Saint-Etienne.

In France, meanwhile, the new archbishop of Paris, Mgr. Maurice Feltin, translated from Bordeaux in August to succeed Cardinal Emmanuel Suhard (*see* OBITUARIES), who had died on May 20, at once showed that he would continue the experiments in pastoral technique among the proletariat that Cardinal Suhard had developed so successfully. The "priest-workman" had become an accepted feature of the life of the "red belt" of Paris; one of them, engaged in the laundry trade as a van-man, had some publicity in a law suit in the autumn, when the trade union to which he belonged took action to have him re-instated after he had been dismissed. In parts of Italy and Austria also the "priest-workman" was becoming known; and the continued close interest in social questions shown by Pope Pius XII (*q.v.*), who in March, for instance, wrote a letter of warm encouragement to Canon Joseph Cardijn, chaplain general and founder of the Young Christian Workers (J.O.C.), for the silver jubilee of the movement, left very little opportunity for Communists to get a hearing for their argument that, if Communism was condemned, it was because the Church was on the side of the bourgeoisie and of privilege. On May 7, indeed, when he addressed a party of business men whom he had received in audience, the Pope went very near to advocating the kind of co-partnership or co-ownership in industry which was recommended four months afterwards at Bochum.

The condemnation of Communism and the excommunication of its adherents was plainly a consequence of the increasingly outrageous persecution of the Church in eastern Europe. In particular, it followed the trial and sentence to penal servitude for life of Cardinal József Mindszenthy, the prince primate of Hungary (Feb. 3-5). That trial was subsequently condemned in the most categorical language not only by the Pope but also by leading spokesmen for Great Britain, the United States and other nations of the free world, in the debates in the general assembly of the United Nations that led up to the decision to seek an opinion on the proceedings from the International Court of Justice. This was the first time for 400 years that a secular court had thus arraigned a member of the college of cardinals. It was, moreover, quickly followed by action against the Church in Czechoslovakia; while such action proceeded most relentlessly of all, if more obscurely, in Rumania, where by the end of 1949 the Catholic Church had virtually ceased to exist as a legal institution.

In Poland, by contrast, where the Pope appointed Mgr. Stefan Wyszyński in January to be archbishop of Warsaw and Gniezno and primate, the Communist government moved more cautiously, and confined the year's activities to the arrest and imprisonment of parochial clergy and to a steadily increasing pressure on the younger generation through the schools and the youth organizations—a pressure which the



More than 30,000 Roman Catholics crowded the open air theatre near the Olympic stadium, Berlin, in July 1949, to celebrate the golden jubilee of the Pope's ordination as a priest. A recorded speech in German by the Pope was delivered.

new primate condemned in an outspoken letter *ad clerum* made public on Oct. 11. A law promulgated in Poland on Aug. 7, governing the " freedom of conscience," described the penalties to be expected if the decree of the Holy Office against Communism should be observed, even though the decree was not actually mentioned. This law, echoing the Soviet constitution in its equal solicitude for freedom of belief and freedom not to believe, was a classic of its kind, for in all these Soviet-dominated countries constitutional texts could be quoted to show that there was freedom of belief; and in Czechoslovakia the bishops again and again during the year invoked in their own protection, if vainly, the provisions of the new constitution

Discussions between church and state opened in Prague in February; and they broke down when, at the 9th congress of the Czechoslovak Communist party, held in Prague in May, the ministers of education and information, party-members both, spoke of their plans for education in terms that left Mgr. Josef Beran, the archbishop of Prague, in no doubt about the government's intention to exclude the Church from all influence in the minds and consciences of the young. In June the curial offices of Mgr. Beran were raided and officials of the ministry of education took possession of his stationery and began issuing documents in the name of the Church, the archbishop, meanwhile, being virtually confined to his quarters. He remained so until the end of the year, so that his signature was absent from most of the collective documents of the Czechoslovak hierarchy through those difficult months which followed. The government developed these " tactics of confusion " by promoting an organization falsely described as " Catholic Action," which opposed the bishops, and by issuing a periodical to all clergy purporting to be the sole source from which they could derive their pastoral instructions. Eventually, on Nov. 1, a new bill became law, reducing all clergy to the status of civil servants, offering them greatly increased rates of pay but requiring them to submit to the detailed direction of a new ministry set up for the purpose. The minister appointed was Alexej Čepička, the son-in-law of President Klement Gottwald and already minister of justice, who had personally conducted most of the campaign against the Church. Throughout all these events two things in particular were striking: the constancy and loyalty to the hierarchy and to the Holy See of the immense majority of the 7,000 Catholic priests of Czechoslovakia and, secondly, the persistent skill of the bishops in transmitting to the western world, week after week, joint statements in which they described their position.

During the year the Pope expressed his anxiety for Jerusalem and the Holy places, for whose internationalization he called in an Encyclical letter issued on Good Friday, and also for the fate of the Church in China, as the southern provinces were overrun by the Communist armies. In Japan, during the summer, the fourth centenary of the landing of St. Francis Xavier was publicly observed. (M. Dk.)

United States. The bishops of the United States issued a statement entitled, " The Christian Family." It emphasized four principles of family life—permanence, freedom, economic security and religion. Concern for the suffering children in many lands was expressed by Pope Pius XII in his radio address on March 2 to more than two million pupils of Catholic schools in the United States and he requested contributions from them as a special Lenten sacrifice. Mgr.

Thomas J. McMahon, national secretary of the Catholic Near East Welfare Association of the United States, reported that Catholic organizations had and would continue to have 2,000 priests and sisters working in the field assisting refugees. They had given regular assistance to some 200,000 of the half-million refugees. Mgr. Edward E. Swanstrom, executive director of the American Catholic Relief agency reported that war relief services of the National Catholic Welfare conference had distributed so far 290 million lb. of relief supplies valued at $130 million.

Bishop Mariano S. Garriga, coadjutor of the diocese of Corpus Christi, Texas, assumed direction of the diocese on March 15, on the resignation of Bishop Emmanuel B. Ledvina who retired because of ill health. Mgr. Emmet M. Walsh, bishop of Charleston, South Carolina, was appointed coadjutor bishop of Youngstown, Ohio, with right of succession to Bishop James A. McFadden. Mgr. Edward A. Fitzgerald, former auxiliary to the archbishop of Dubuque, Iowa, was appointed bishop of Winona, Minnesota. Mgr. Leo Binz, formerly titular bishop of Pinara was appointed titular archbishop of Silyum and coadjutor with right of succession to Archbishop Henry P. Rohlman of Dubuque. Mgr. Francis E. Hyland, of Philadelphia, was appointed titular bishop of Gomphi and auxiliary to Bishop Gerald P. O'Hara of Savannah-Atlanta, Georgia. Mgr. James H. Griffiths, chancellor of the military ordinariate, which comprises all Catholics in the U.S. armed forces, was named titular bishop of Gaza and auxiliary to Cardinal Francis Spellman in his capacity as military vicar.

At the end of 1949 the U.S. Catholic hierarchy ruled 23 archdioceses, 101 dioceses, and 1 vicariate-apostolic (Alaska). There were 4 cardinals, 20 archbishops, 157 bishops and 36 abbots; the parishes totalled 15,905; there were 42,334 priests, 7,302 brothers and 141,606 nuns.

The Claver index, containing over 35,000 reference cards on the subject of the Negro and the Catholic Church, was installed at the Catholic Interracial Centre in New York city. This unique collection was the life work of Fr. Arnold Garvy, S.J., of Chicago, and was being used by students and research workers from all over the country. The Catholic Interracial Council of New York completed its eighth year of weekly interracial forums of leading speakers treating a wide variety of problems dealing with race relations. In addition to the twelve Catholic Interracial Councils existing, four others were in process of formation during the year. (*See* also CHURCH MEMBERSHIP; PIUS XII; VATICAN CITY STATE.)

(J. LAF.)

Statistical Data. According to *The Catholic Directory 1950* (London) the Catholic population of the world was estimated at 423 million. The figure of Catholics in the United States was given as 26,718,343, and in the United Kingdom as 3,833,649 (England and Wales 2,754,249; Scotland 621,400; Northern Ireland 458,000).

ROME. Capital and largest city of Italy. Pop.: (July 1, 1936) 1,148,987, (July 1, 1948, est.) 1,613,660.

During 1949 traffic in Rome continued to multiply, especially the trolley-buses, which were very smart and swift but as crammed as ever and up in price. The broken down trams of the immediate postwar period began to yield place to fine new ones but here, too, the over-crowding continued unabated. Most of all, motor-bicycles increased, particularly the light " scooter type." (This was just as much the case in many other towns). The long drought brought



The bombed site of Rome's central railway station where work was in progress in 1949 on the first part of an underground railway for the city.

a serious water shortage followed by an electricity famine, involving two days, then in the autumn three, without current from 7 A.M. to 6 P.M.

Luxury flats continued to go up in the wealthy suburbs but in spite of much talk about the Fanfani plan very little else was built. Rome began to pride itself on having superseded Paris in leading women's fashions, for Rome claimed that Roman creations were more truly feminine. Social life became rather more feverish than ever before. The price of the *espressi*, small cups of very good strong black coffee, which are a national drink, increased in some bars from 20 lire to 25 lire; as one might easily consume twelve of these a day, this was a minor blow to the already impoverished middle class.

A great many international gatherings took place in Rome in 1949; there were also, of course, preparations outside the Vatican City for the coming Holy Year. For the first time since the Italian army conquered Rome from the Pope on Sept. 20, 1870, the anniversary of that day was not officially celebrated. On June 2, the third anniversary of the voting in favour of the present republic, a monument was inaugurated to Giuseppe Mazzini. (E. WI.)

ROMULO, CARLOS PENA, Philippine journalist, army officer and politician (b. Camiling, Tarlac, Luzon, Jan. 14, 1901). After studying at Manila high school and at the University of the Philippines, and in the United States at Columbia university, he entered journalism and became editor of the *Philippines Herald* (1923). A survey of the far east that he made in 1941 won for him a Pulitzer prize. After the Japanese attack on the Philippines, he was public-relations officer to General Douglas MacArthur, and was said to be the last man to leave Bataan alive before its capitulation. He rejoined MacArthur in Australia as the latter's aide-de-camp, and later became a brigadier general in the U.S. army. He was Philippines delegate to the United Nations from that organization's beginnings, and at the opening of the fourth annual session of the U.N. at Flushing Meadow in Sept. 1949, Romulo was elected president of the general assembly.

ROOT CROPS. The very large crop of potatoes in 1948 in the United Kingdom provided ample supplies for both human consumption and stockfeed. Probably nearly 1,500,000 tons of potatoes, either raw or processed, were used for stockfeed in addition to some 5,750,000 tons for human consumption (78% more than prewar).

ROOT CROPS IN GREAT BRITAIN*

	Acreage (thousand acres)			Production (thousand tons)		
	1936-38 Average	1948	1949†	1936-38 Average	1948	1949†
United Kingdom						
Potatoes	724	1,548	1,309	4,873	11,798	8,542
Sugar beet	335	413	420	2,741	4,319	3,454
England and Wales						
Carrots	15 3	34·6	31 6	181·0	449·0	
Parsnips	‡	8·9	5 4	‡	105·4	
Beetroot	‡	11·1	8 4	‡	107·0	

* Statistics published by the Ministry of Agriculture.
† Subject to revision
‡ Separately collected for the first time in 1941.

The maintenance of a potato area over double the prewar acreage caused many difficulties, especially in the supply of labour for harvesting so that a slightly lower national target was set for 1949. The reduction of 235,000 ac., 14% greater than planned, and a yield of 10% below average resulted in this 1949 crop being 30% less than that of 1948 and only 6·5% more than the small 1947 crop which necessitated potato rationing.

The acreage under sugar beet was 8,000 ac. larger than in 1948 but the yield per ac. was 8% below average. The sugar content promised to be high as a result of the dry season but was reduced by heavy rain in October.

The acreage of carrots decreased by 9%, parsnips by 40% and beetroot by 24%: yields per ac. of all three crops were low.

The prices of potatoes for the 1948 and 1949 crops, including an allowance for acreage payments, were 118 and 126% respectively above the average for 1936-38. Prices of sugar beet were 156% in 1948 and 161% in 1949 above the 1936-38 level.

The special measures taken in 1948 to prevent the spread of Colorado beetle to the United Kingdom from continental Europe were continued in 1949. The wide publicity given to the pest resulted in such colonies as were formed being dealt with while still small. Both early and main crop potatoes in southeastern England were sprayed and dusted as a routine precaution. (*See* also MARKET GARDENING; VEGETABLES.) (K. E. H.)

ROSSELLINI, ROBERTO, Italian film director (b. Rome, May 8, 1906), son of a prosperous building contractor, left the university because of a change in family fortunes and entered the film industry as a dubbing technician. In 1940 Rossellini became a director and produced his first film, a "short" called *Vita in un acquario*. A number of short films followed: *La nave bianca* (1941), which was partly documentary; *Un pilota ritorna* (1942); *L'uomo dalla croce* (1943). *Roma città aperta* (1945) (*Open City*) was shown in Europe and America and brought Rossellini the widest recognition. It was marked especially for its exceptional fidelity in treatment of character and environment and for the acting of Anna Magnani (*q.v.*). Only three studio sets were used, the remainder of the shooting being done on actual sites in Rome. In 1946 came *Paisà*, made in collaboration with Rod Geiger who had bought the U.S. rights for *Roma città aperta;* both films were noticeable for the new Italian realism with a social content which reached its height in Rossellini's next film, *Germania anno Zero* (1947). In 1948 followed *Amore* which won the Oscar award for the best foreign film in that year, and *La macchina ammazza cattivi;* in these Rossellini moved towards a more poetic interpretation while retaining non-professional persons as actors. In April 1948 Rossellini visited London as guest of the British Council. The Locarno award for 1949 was made to Rossellini for his direction of *Germania anno Zero*. In the same year he joined Samuel Goldwyn to produce *Stromboli*, set in the island of Stromboli, with Ingrid Bergman as the leading actress. Rossellini's technique is marked by a significant realism, to produce which both camera and actor are partners. In his films photography is documentary; actors are mainly non-professional and the dialogue written on the set.

ROTARY INTERNATIONAL. During 1949 the number of Rotary clubs in Great Britain and Ireland increased from 643 to 675, and the number of Rotarians from 29,000 to 30,000. From January to June Rotarian Percy Reay, M.B.E., of Manchester, was completing his year of office as president of Rotary International in Great Britain and Ireland. He was succeeded by Rotarian Arthur Mortimer, O.B.E., of St. Pancras, London, who was nominated at the annual conference held at Blackpool, Lancashire, from April 29 to May 2, which was attended by more than 5,000 delegates, and elected at the convention of Rotary International held at New York, U.S.A., in June. The international convention was attended by 16,000 delegates.

Many Rotary clubs devoted attention to the problems of industrial relations and made a study of the possibilities of particular assistance to young entrants to industry.

Changes in the scope of voluntary service following post-war social legislation were studied by Rotary clubs with a view to clarifying the ways in which the individual citizen could best serve his community. Rotarians also studied the movement towards a United Europe, and there were many visits by Rotarians to and from various countries of Europe and elsewhere.

Eight young men nominated by Rotary clubs in Great Britain and Ireland were awarded Rotary foundation fellowships by Rotary International, enabling them to undertake one year's post-graduate study in countries other than their own. Twenty-two graduates from U.S.A. and the Commonwealth travelled to British and Irish universities to study under this scheme. (F. C. H.)

ROWING. Exceptionally fine weather made the 1949 rowing season in Great Britain one of the most successful in memory. Even the university boat race was rowed in almost summer conditions. The crews were evenly matched, with Cambridge considered the more powerful and Oxford the faster off the mark. Oxford won the toss and chose the Middlesex station. Oxford led at the mile and at Hammersmith; then Cambridge gradually drew up until the crews were level off Dukes meadows and at Barnes bridge. Cambridge managed to hold on round the outside of the final bend and won in the last few strokes with a magnificent spurt by only a quarter of a length. The time of 18 min. 57 sec. was fast in the conditions. This was the closest boat race verdict since the dead heat of 1877 and the first occasion on which the Surrey station has won after Barnes.

The crews were, Cambridge: G. S. S. Ludford (bow), A. L. MacLeod, C. B. M. Lloyd, J. R. La T. Corrie, E. A. P. Bircher, P. M. O. Massey, D. V. L. Lynch-Odhams, D. M. Jennens (stroke), T. R. Ashton (cox). Oxford: G. C. Fiske (bow), A. J. M. Cavenagh, W. J. H. Leckie, R. L. Arundel, A. D. Rowe, T. D. Raikes, J. M. Clay, C. G. V. Davidge (stroke), A. Palgrave-Brown (cox).

The Universities. At Oxford, Trinity remained head of the river for the sixth year in succession, which was a record; the crew was the best since the war. At Cambridge, Jesus lost the headship to Trinity Hall, who were in turn caught by Clare. Easily the best crew were Lady Margaret (St. John's) who started eighth and finished fifth.

Henley Royal Regatta. An almost completely dead stream and a fitful following wind made possible a spate of record-breaking such as had not been seen since 1934. In the Ladies' Plate Lady Margaret put up a new record of 6 min. 44 sec. Their second eight made a new Thames cup record of 6 min. 51 sec. In the Grand, Leander equalled the record of 6 min. 44 sec. E. W. Parsner and A. Larsen, of Denmark, beat the Olympic winners B. H. T. Bushnell and R. D. Burnell, by one length in 7 min. 27 sec. which was 31 sec. inside the record. Lensbury R.C. lowered the Wyfold record to 7 min. 24 sec., and Trinity, Oxford, broke the Stewards' record by one second, in 7 min. 13 sec.

Grand Challenge Cup: Leander club beat Thames R.C., 1 length, 6 min. 54 sec.

Ladies' Plate: Lady Margaret beat Pembroke college, Cambridge, 2 lengths, 6 min. 50 sec.

Thames Cup: Princeton university, U.S.A., beat Lady Margaret " B," 1 length, 6 min. 58 sec.

Princess Elizabeth Cup: Winchester college beat Westminster school, 4 lengths, 7 min. 11 sec.

Stewards' Challenge Cup: Trinity college, Oxford, beat London R.C., 3 lengths, 7 min. 13 sec.

Visitors' Challenge Cup: Clare college beat First and Third Trinity, 3 lengths, 7 min., 31 sec.

Wyfold Challenge Cup: Lensbury R.C. beat Royal Chester R.C., 3 lengths, 7 min. 41 sec.

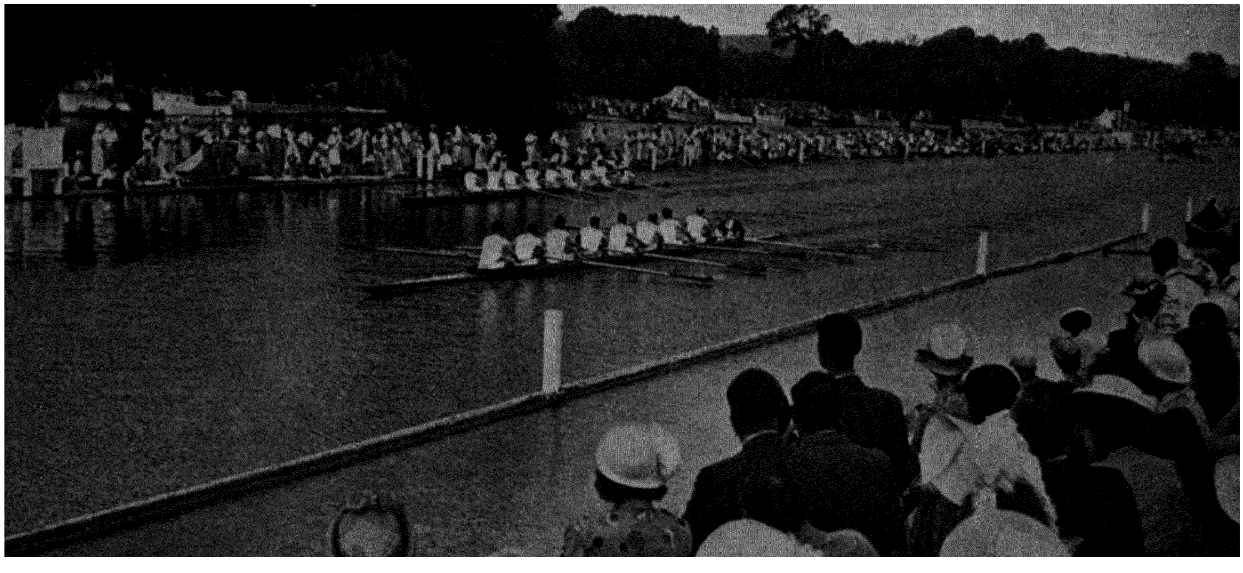
Silver Goblets: A. S. F. Butcher and T. H. Christie (Thames R.C.) beat R. C. Morris and A. Burrough (Thames R.C.), 2½ lengths, 8 min. 20 sec.

Double Sculls: E. W. Parsner and A. Larsen (Denmark) beat J. B. Brown (Loughborough B.C.) and K. W. Tinegate (Birmingham R.C.), 2½ lengths, 7 min. 39 sec.

Diamond Sculls: J. B. Kelly (U.S.A.) beat J. Trinsey (U.S.A.) easily, 8 min. 12 sec.

The Wingfield Sculls, amateur sculling championship of the Thames, were won by the holder, P. N. Carpmael (London R.C.), who beat A. D. Rowe by half a length in 22 min. 55 sec. Conditions were very slow.

The European Championships were held on the Bosbaan course at Amsterdam. Results: coxed fours, Italy, 6 min. 57 sec.; coxed pairs, Italy, 7 min. 55 sec.; coxwainless fours, Italy, 6 min. 45·2 sec.; coxwainless pairs, Sweden, 7 min. 28·2 sec.; single sculls, U.S.A. (J. B. Kelly), 7 min. 30·8 sec.;



Leander club beating Thames Rowing club " A " crew in the final of the Grand Challenge cup, Henley Royal regatta, July 1949.

double sculls, Denmark, 6 min. 57·2 sec.; eights, Italy, 6 min. 11 sec. (R. D. B.)

United States. Four major regattas were held and many others of lesser importance. The fourth annual sprint championships of the Eastern Association of Rowing Colleges were held on Lake Onondaga, New York. Harvard won all three events. At Poughkeepsie, New York, in the 47th annual Hudson river classic, 30 crews faced the starter in the three events. The University of California's Golden Bears dethroned the defending champion, the University of Washington, in the varsity race, but the huskies took the junior varsity and freshman events. Yale halted Harvard's victory streak at New London, Connecticut, in the only 4 mi. race held in 1949 in the United States.

In the Eastern Intercollegiate sprint championships, Harvard dominated the field; Massachusetts Institute of Technology was second and Princeton third, followed by Cornell, Navy and Boston university.

The Wright cup regatta for the lightweight championship of the east, held on Lake Carnegie, Princeton, New Jersey, went to Cornell over the defending champion Princeton. The 47th annual Poughkeepsie classic was won by Ky Ebright's undefeated University of California varsity. The seventh annual Dad Vail Rowing association regatta was held at Poughkeepsie for the first time. Boston university crews swept the three races.

Schoolboy rowing showed still further progress. The 15th annual championships were held at Ecorse, Michigan, with an entry of 23 schools from the United States and Canada.

J. B. Kelly, Jr., U.S. single-sculls champion for 1948, did not defend his title, but remained abroad and won all the important European single-sculling championships including the European championship at Amsterdam. (C. L. Bt.)

RUANDA AND URUNDI: *see* Belgian Colonial Empire; Trust Territories.

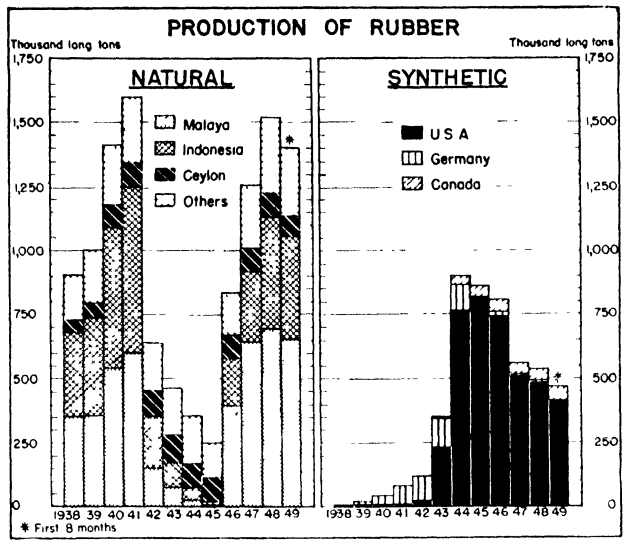
RUBBER. For British rubber producers, postwar recovery in output was broadly maintained during 1949, but in circumstances of world trade which looked anything but promising at first.

In September, both the Washington financial agreement and the devaluation of the £ came as favourable auguries for the producers' future.

The decline in rubber prices had been fairly steady in New York and London until August. The estates in Malaya, even so, were going ahead with their long-term programmes for replanting with high-yielding rubber and required more capital for this work of reconstruction. But payment of war damage compensation was still held up. In November the colonial secretary announced that payment would probably be arranged by the end of the year, adding that the delay was not in the United Kingdom but in Malaya. Political unrest in the far east was still making life difficult and hazardous for the planters.

The terms of the Washington agreement were published on Sept. 13; they promised a review of the American stock-piling programme. There was to be a relaxation of the government orders requiring American manufacturers to use fixed proportions of home-produced synthetic rubbers. Altogether, there was to be a wider field in the U.S. for the sale of natural rubber.

The devaluation of the £, which followed a few days later, caused an immediate reaction in the rubber markets. Prices rose by about 20% in London and Singapore and on both these markets the rise was maintained. In New York the reaction was more complex. In August the average price



there was 16·60 cents a lb. Prices rose as the Washington talks progressed and reached 18·62 cents on Sept. 13; the average for the 21 trading days in the month of September was 17·58 cents, the highest figure since May. But after devaluation, the price fell to 16·88 cents, rose again to 17·25 cents and then fell away until it reached 16 12 cents on Oct. 11.

On Sept. 21, trading in rubber futures on the New York commodity exchange reached a new postwar record for volume, the total transactions for the day being 5,790 tons. The previous peak was 4,900 tons on Dec. 4, 1947. On Oct. 11 the resumption of stock-piling by the U.S. government was announced and caused a widespread buying movement.

Perhaps the most immediate effect of devaluation was that for a time it eliminated the black market in rubber and so gave to producers in the sterling area a better chance to sell their output for dollars. But it had to be borne in mind that the added scope for the sale of natural rubber was open to the whole world and could as easily be taken up by Indonesia, which had shown an increasing ability to compete, as by Malaya.

There could be no doubt that for the greater part of 1949 the state of the American market was the main source of anxiety for rubber producers. Figures published on the eve of the Washington talks showed quite clearly that since April there had been a marked falling off in the exports of natural rubber from Malaya to the U.S. In September, the tonnage exported jumped to 27,184 tons, but this still compared with 32,473 tons exported in Sept. 1948. In October exports reached 24,787, which compared with a 1948 figure of 28,524.

The fall was attributed partly to sharper competition from Indonesia. An order had been issued by the Dutch authorities that 50% of all Indonesian estate exports were to be sold in the U.S., Canada and Japan. Later in the year this order was shelved, when it appeared likely that, following her own devaluation, Indonesia would be able to ship the stipulated quantity without regulation.

In the first half of the year Indonesia exported 52,898 tons to the U.S., compared with a total of 96,814 tons for the whole of 1948. But in July only 5,830 tons went to America. The figure returned to 12,498 tons in August, but dropped again to 4,795 tons in September.

The Washington agreement reduced the mandatory area for synthetics by 35,000 tons for butadiene and styrene (GR-S) and by 15,000 tons for butyl. The superiority of

the latter over natural rubber in certain characteristics had been established; it had, for example, 10 to 11 times the air retention, and it might still be used on its own merits for inner tubes. GR-S was the general purposes synthetic; whether or not its use would be reduced by the full 35,000 tons was still in doubt.

The continued interest of U.S. manufacturers in synthetic rubber, retained even when the price of natural rubber was lower by several cents a pound, caused some bewilderment in London. There was, indeed, a campaign on the manufacturers' part to convince the American customer that natural rubber was "foreign and inferior." Rubber is one of the few raw materials that America has to import and the importance of the American market cannot be exaggerated. During the year, planters in the far east urgently pointed out that even a slight fall in the New York price of rubber could mean a great deal to the living standards of far eastern peoples.

At home, much was made of the significance of rubber exports to North America as a means of closing the dollar gap. The fall in the dollar value of rubber taken by the U.S. in the first eight months of the year was put forward as one of the main reasons why this gap was widening. In 1948, crude rubber exports to the U.S. from the sterling area earned about £50 million, or about six times the dollar earnings of British car exports. In the first six months of 1949 the dollar earnings were equivalent to only £17·5 million.

World production and consumption of natural rubber recovered steadily from the depression they suffered in 1945, when Japan occupied the territories of the far east. In 1939 production stood at 1,000,000 tons and consumption at 1,105,000 tons. Output had dropped in 1945 to 250,000 tons and consumption to 262,500 tons. In 1948 production had mounted again to 1,520,000 tons and consumption to 1,420,000 tons, while the estimated output for 1949 was put at 1,575,000 tons, to meet a demand for 1,450,000 tons. Known stocks had fallen in 1948 by 80,000 tons. The French government withheld their figures after Jan. 1949.

World production of synthetic rubber fell from the high level reached in 1944, when the total output was over 900,000 tons, including more than 100,000 tons made in Germany. In 1948 the total was 532,186 tons, of which 488,343 tons were made in the U.S., 40,455 tons in Canada and 3,388 tons in the British zone of Germany.

From Jan.-July 1949, imports of natural rubber into the United Kingdom were 98,317 tons, of which 78,050 tons came from Malaya. In the same period, 1,355 tons of synthetic rubber were imported and consumption of both natural and synthetic was 104,680 tons, to which were added 11,139 tons of reclaimed rubber. (C. F. Dn.)

United States. The estimated consumption of both natural and synthetic rubbers in the United States in 1949 was 977,000 long tons, of which 407,000 were synthetic rubbers. Outside the United States 33,000 long tons of synthetic rubber were consumed. The estimated production of crude rubber for 1949 was 1,455,000 long tons.

The low prices for rubber in the summer of 1949 (average price, May-June, for first quality rubber was 16·1 cents per lb. as against 18·5 to 19·25 cents in April 1949) caused concern in the rubber-producing countries. Reports from Malaya, the source of 46% of 1948 natural rubber, attributed the lower prices to the American synthetic rubber industry and to the minimum consumption of synthetic rubber prescribed there by law.

The United States importation of 728,000 long tons of crude rubber in 1948 represented dollar payments which were more than twice those paid by the United States in 1939. The U.S. consumption per head of new rubber in 1948 was 16·5 lb. while for the rest of the world it was 0·9 lb.

The most important source of synthetic rubber, government-owned factories in the United States, continued to produce large amounts of general purpose rubber, GR-S (butadiene and styrene), at 18·5 cents per lb. to the manufacturer. Provisions pertaining to the production and use of synthetic rubber were imposed under the Rubber act of 1948 which insured the consumption of general-purpose and special-purpose synthetic rubbers in quantities at least equal to the minimums specified as essential in the interests of national security. This regulation operated so as to involve only manufacturers of tyres, tubes and mainly passenger car tyres. Only 50 of the 1,000 manufacturing concerns requiring rubber made tyres, tubes and camel-back.

These requirements worked out so that 1 lb. of GR-S was consumed for every 3 lb. of total rubber. In September 1 lb. of GR-S was allowed to be used for 4 lb of GR-S and crude rubber combined. The minimum tonnages required under the law worked out initially at 200,000 long tons a year for GR-S and 21,666 long tons of special-purpose rubbers, 15,000 long tons of which were for inner tube use.

Reclaimed rubber (derived mainly from worn-out tyres and tubes) was a supplement to new rubber. In 1948 the tonnage of reclaimed rubber used in the U.S. was 25% of the total new rubber consumed. This percentage compared with 29% in 1939 and 65% in 1942. Reclaimed rubber was used in the manufacture of most rubber products.

Since 1944 the production of tyre cord and fabrics had increased steadily but with a significant swing toward the use of rayon and nylon

In the United States, in 1948, 70·6% of natural rubber consumption and 68·2% of synthetic rubber consumption was for transportation uses. Thus all other uses of rubber accounted for about 30% of the total new rubber consumed. The quantities of products manufactured in the United States for 1947 comprised 111,686,368 pneumatic tyre casings, 97,596,708 inner tubes, 97,413,406 lb. of camelback and repair materials, and 635,762,626 lb. of reclaimed rubber.

RUGBY FOOTBALL: *see* Football.

RUMANIA. A people's republic of southeastern Europe, bounded on the N. and N.E. by the U.S.S.R., on the E. by the Black sea, and the S. by Bulgaria and on the W. by Yugoslavia and Hungary. Area: (1939) 113,889 sq. mi.; (1947, without Bessarabia, northern Bukovina and southern Dobruja) 91,671 sq. mi. Pop.: (1939 est.) 19,933,800; (Jan. 25, 1948, census) 15,872,624. Languages (1948 census): Rumanian 85·7%; Hungarian 9·4%; German 2·2%; Yiddish 0 9%; others 1·8%. Religions (1947 est.): Greek Orthodox 81%; Greek Catholic 9%; Roman Catholic 7%; others 3%. Chief towns (pop 1945 est.): Bucharest or Bucureşti (cap., 1948 census, 1,401,807); Cluj (110,956); Jassy or Iaşi (108,987); Timişoara (108,296); Ploeşti (105,114); Brăila (97,293); Galaţi (93,229). Chairman of the presidium of the Grand National Assembly, Constantin Parhon; prime minister, Dr. Petre Groza.

History. By a reshuffle of the government on April 15, Ana Pauker (*q.v.*) and Vasile Luca (*q.v.*) were made deputy prime ministers. This office was already held by Gheorghe Gheorghiu-Dej (*q.v.*). These three people, who were also the three leading Communists of Rumania, thus formed an inner cabinet similar to the five deputy prime ministers of Bulgaria (*q.v.*).

During the year there were no sensational "unmaskings" within the Communist party. The first of the "nationalist deviations" in east European Communist parties had been "liquidated" in Rumania in 1948, with the expulsion of Lucreţiu Pătrăşcanu. Evidently this heresy had been nipped in the bud. Of the devotion of the party leaders to Moscow



A demonstration in Bucharest on Aug. 23, 1949—the fifth anniversary of Rumania's national liberation day.

there seemed no reasonable doubt. Rumania seemed in fact to be more thoroughly subjected to the U.S.S.R. than any of the other people's democracies. An indication of this was the replacement of the country's name by the initials R.P.R. (Republica Populara Româna). While Hungarian or Bulgarian Communists still spoke of Hungary or Bulgaria, Rumanian Communists extolled the virtues and glories only of R.P.R. The attempt to concentrate patriotism on initials was an importation from the U.S.S.R.

A new trade agreement between Rumania and the Soviet Union, signed on Jan. 24, increased the mutual trade two-and-a-half times above the level of 1948. The sum was announced in Soviet roubles—465 million for 1949. The arbitrary nature of rouble exchange rates made it even more difficult to calculate how much Rumania was giving and receiving under this agreement than was the case when goods were priced in "1938 dollars." The number of Soviet-Rumanian joint companies was increased by the creation of enterprises for joint exploitation of natural gas (Jan. 1949), metals, coal, building (July 5) and a Soviet-Rumanian insurance company (July 29).

Rumania's system of alliances was completed on Jan. 26, 1949, when a treaty of mutual assistance was signed with Poland. The existing treaty of alliance with Yugoslavia was denounced by the Rumanian government on Oct. 1.

Collectivization of agriculture made some progress. As in Hungary, attention was concentrated on the liquidation of the *kulaks*. Mass collectivization was not to start until the power of the *kulaks* in the villages was broken and until adequate supplies of agricultural machinery were available in order to allow the new collective farms to benefit from the advantages of large-scale cultivation. The first process was supposed to take place by political education and by the initiative of the village masses themselves, but in practice was conducted by the party officials with the backing of the police. Even when violence was not used, economic strangulation was likely to be effective. A statement of the central committee of the Communist party, dated March 5, 1949, ordered "differential class taxation" and a "class policy in cereal collection and in the allocation of credits" to destroy the power of the *kulaks*. On the actual interpretation of the word *kulak* in the Rumanian villages there was a lack of reliable information. Supplies of machinery were to be provided by the tractor factory set up by the Soviet-Rumanian joint company Sovromtractor and by the extension and improvement of the network of "machine-tractor stations," based on the similar institution in the U.S.S.R. A central committee directive of Oct. 15 laid down new regulations for the organization of the M.T.S. It stressed the need for control over the stations by the local organs of the Communist party. "Socialist competition" was to be practised between M.T.S. as between factories. The actual number of collective farms set up was still small: only 55 at the end of September. (*See* also PEASANT MOVEMENT.)

Official statistics published in October claimed that at the end of the third quarter of 1949 the targets set in the One-Year plan for 1949 had been achieved to the extent of 109%. Among the more successful branches were lead and copper mining and some sections of machinery and chemicals, the least successful—the building industry. A new One-Year plan was drawn up for 1950 and it was announced that in 1951 a Five-Year plan would be introduced. By 1955 yearly output of steel was to be five times that of 1938 and would be 1,250,000 metric tons. Output of coal was to be three times that of 1938, of cast iron eight times; of electric power four times the level of 1944. In 1955 Rumanian industry was to be capable of producing 6,000 tractors yearly and in that year Rumania would have, from various sources, a total of 25,000 tractors. This, it was officially stated, would constitute "a sound basis for socialist agriculture." This was a change from a communist party statement of March 1949 which declared that Rumania must have 30,000 tractors before large-scale collectivization would be possible. An important construction project announced on May 26 was a Danube-

Black sea canal. This would short-cut the Danube delta, and greatly facilitate trade between central Europe and the U.S.S.R.

From these various statements it could be concluded that the collectivization of Rumanian agriculture would for the time being move slowly but that the pace would be increased during the Five-Year plan period 1951-55. The pace would depend on the urgency of securing food and labour supplies from the countryside, and this in turn would depend on the priority given in Moscow to Rumania's industrialization. This would itself depend on Moscow's view of the international situation.

Political sovietization was carried further by the establishment in October of a State Control commission similar to the organizations of the same name already existing in Yugoslavia and Bulgaria and modelled on the Ministry of State Control of the Soviet Union. (H. S.-W.)

Education. Schools (1949; 1938 in brackets): elementary 19,000 (11,000); secondary, pupils 141,000 (40,000); teachers' colleges, students 89,000 (5,000); universities 4, students 44,000 (24,000).

Agriculture. Main crops ('000 metric tons, 1947): maize 5,279; wheat 1,279; oats 180; barley 364; rye 66; potatoes (1948) 1,630; sugar, raw value (1948) 112; hemp (1948) 27; flax (1948) 3·7; cotton, ginned, (1948) 3. Livestock ('000 head): sheep (Dec. 1947) 7,000; cattle (Dec. 1946) 3.048; pigs (March 1946) 1,406; horses (Dec. 1947) 939.

Industry. (1947) Industrial establishments 28,295; persons employed 462,305. Fuel and power: coal ('000 metric tons) 162; lignite 2,108; natural gas (million cu. m.) 2,106; electricity (million kwh.) 712; crude oil ('000 metric tons, 1948) 4,500. Raw materials: pig-iron ('000 metric tons) 91; steel 183; gold (kg.) 2,231; silver (fine troy oz.) 481,200; copper (metric tons) 531; lead 3,495; zinc 2,283. Manufactured goods: refined petroleum products ('000 metric tons) 3,450; cotton yarn 11,300; cotton fabrics 3,200; sawn timber ('000 cu. m.) 1,359; cement ('000 metric tons) 418.

Foreign Trade. (1948) Imports 96 million U.S. dollars, exports 160 million U.S. dollars.

Transport and Communications. Roads (1945): 43,163 mi. Licensed motor vehicles (Dec. 1948): cars 14,670, commercial vehicles 14,950. Railways (1948): 7,000 mi. Shipping (1948): merchant vessels 15, total tonnage 32,962. Telephones (1947): subscribers 127,153.

Finance and Banking. (Million lei) Budget: (1950 est.) revenue 353,880, expenditure 350,680. Currency circulation (July 1948): 32,000 million lei. Monetary unit: *leu* (pl. *lei*) with an exchange rate of L.427·30 (615 before Sept. 18, 1949) to the pound.

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RUSSELL, BERTRAND ARTHUR WILLIAM RUSSELL, 3rd Earl, British philosopher and mathematician (b. Trelleck, May 18, 1872). (For his early career see *Encyclopædia Britannica*).

He returned to England from the United States in 1944 and accepted a fellowship at Trinity college, Cambridge. He became a member of the B.B.C. brains trust, and in 1946 *A History of Western Philosophy* was published, on the writing of which he had been engaged for many years. On Oct. 4, 1948, the Norwegian flying-boat in which he was travelling to lecture to students of Trondheim university on " Ideologies and Common-Sense " crashed and sank off the Norwegian coast. He was rescued after swimming in the cold northern waters for some time. At the end of 1948 and the beginning of 1949 he broadcast the first of the series of Reith memorial lectures which had been initiated by the B.B.C. His subject for the six lectures which were broadcast on the third programme was " Authority and the Individual." On March 25, 1949, he received the degree of doctor *honoris causa* from the University of Aix-Marseilles, France. In Sept. 1949 he lectured in Paris on the occasion of the meeting of the general conference of U.N.E.S.C.O. He was awarded the Order of Merit in the birthday honours, June 1949.

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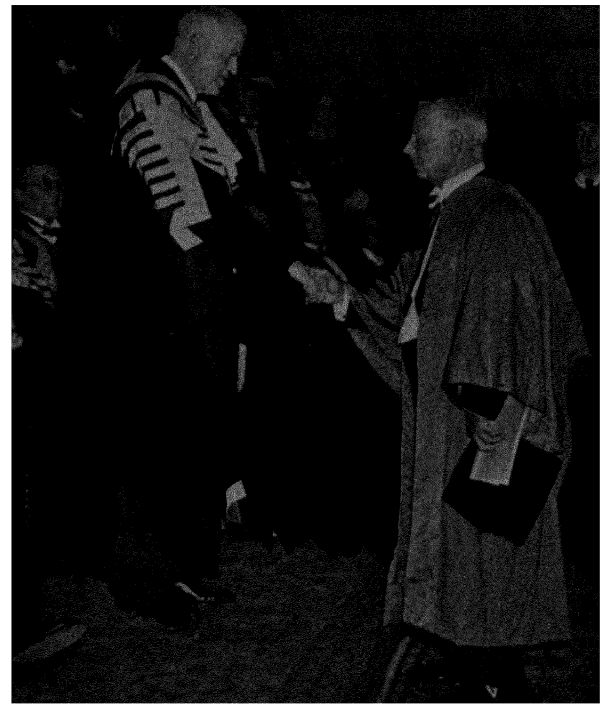
RUSSELL, SIR EDWARD JOHN, British agricultural scientist (b. Frampton, Gloucestershire, Oct. 31, 1872), was educated at the University College of Wales and at Victoria university, Manchester. He was a lecturer and demonstrator in chemistry at Manchester, 1898-1901, and head of the chemical department at the agricultural college, Wye, 1901-7, when he went to the Rothamsted experimental station where he remained until his retirement in 1943. He was its director from 1912 and from 1928 to 1943 was also director of the Imperial Bureau of Soil Science. During World War II he was adviser to the Soviet relations division of the Ministry of Information and from 1941 to 1945 chairman of the agricultural sub-committee of U.N.R.R.A. On Jan. 7, 1949, Sir John was installed as the 111th president of the British Association for the Advancement of Science in succession to Sir Henry Tizard. He had previously been president of the agricultural section of the association in 1916, 1924 and 1931. His presidential address to the annual meeting of the association at Newcastle-on-Tyne on Aug. 31, 1949, was entitled " World population and world food supplies "; and on the same day he was given the honorary degree of doctor of science by the University of Durham. His many books include *Soil Conditions and Plant Growth* (1919; 8th ed., 1949), *A Student's Book on Soil and Manures* (1915; 4th ed., 1949), *The Farm and the Nation* (1933) and *English Farming* (1942). He was knighted in 1922.



Sir John Russell, president of the British Association for the Advancement of Science for 1949, receiving the honorary degree of doctor of science from Sir James Duff, pro-vice-chancellor of Durham university, Aug. 31, 1949.

RUSSIA: *see* UNION OF SOVIET SOCIALIST REPUBLICS.

RUSSIAN LITERATURE. The year 1949 would be remembered in Soviet Russian literature, not so much for any positive achievements, as for the violent, almost daily attacks in the press on literary, dramatic, music and film critics for their " formalism " and " homeless cosmopolitanism." This campaign of vituperation represented a further stage in the general " anti-western " movement inaugurated with the notorious Zhdanov purges in 1946. Several hundred critics, including many prominent and regular contributors to the Soviet press, were involved, the attackers frequently

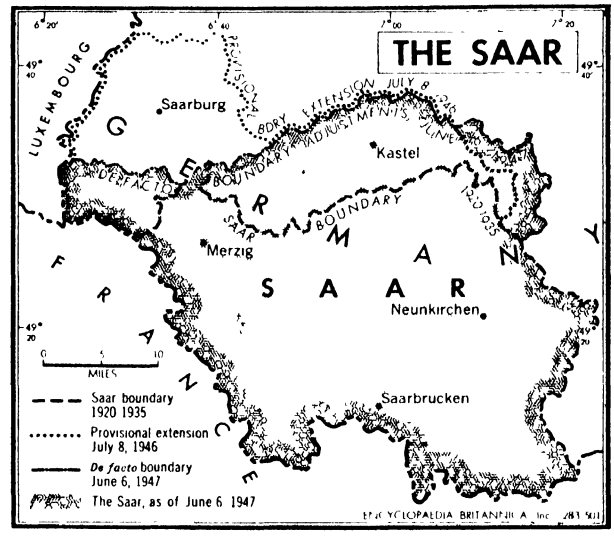
being attacked in turn and accused of the same sins which they had imputed to the others. A peculiar feature of this campaign was its latent anti-Semitic flavour. The word "Jew" was not used outright, but the context in which the expression "homeless cosmopolitans" appeared was more than suggestive. Many of the attacked happened to be Jews using Russian pseudonyms and these latter were systematically and maliciously disclosed. In two cases the anti-Semitic bias could easily be read into the attack. One was when a certain Serghey Ivanov, in *Oktiabr*, charged the well known literary historian Leonid Grossman with having discussed the influence of the Bible and of "Jewish folklore" on Lermontov. The other, an article in *Druzhba Narodov* by Kornely Zelinsky (himself previously attacked for his earlier "formalist" writings) about the late Mikhail Gershenson as a student of Pushkin and of Russian literary history in general: Gershenson was spoken of as "a homeless cosmopolitan" and "a parasite sucking on Russian literature." There were also specific attacks on Jewish cultural organizations, on the Jewish theatres in Byelorussia and Ukraine, on the editors of the *Jewish Encyclopædia*, etc. A violent anti-western bias characterized also the nationwide celebrations of the 150th anniversary of Pushkin's birth, just as the year before it had marked the commemoration of the centenary of Belinsky's death. The exposure of "Anglo-American imperialists" was the keynote of many a new play and story. Others sounded an ultra-patriotic note, glorifying everything Russian.

Of the works by established Soviet authors the following must be mentioned: the first part of Fyodor Gladkov's autobiographical *Detstvo* (*Childhood*), a colourful realistic picture of pre-revolutionary life in a Russian village; Valentin Kataev's novel *Za vlast' Sovetov* (*For the Power of the Soviets*), dealing with wartime exploits and experiences of some characters in one of his best earlier novels, *The Lone White Sail;* and Veniamin Kaverin's novel *Otkrytaya kniga* (*The Open Book*), giving the life story of a Soviet woman doctor. Vera Panova, who in 1947 attracted attention with her short novel *Sputniki* (*The Travelling Companions;* in English translation, *The Train*) and in 1948 followed up with *Kruzhilikha*, wrote a new novel, *Yasny bereg* (*The Clear Shore*), about a collective farm. There were no notable newcomers to literature.

Among emigré writers the outstanding event was the death in Rome, in July, of Vyacheslav Ivanov, the last survivor of Russian Symbolism, once its main theoretician and a poet whose greatness time would undoubtedly confirm; born in 1866, Ivanov left the Soviet Union in 1924 and became a Roman Catholic. Alexey Remizov published in Paris his first book in Russian since 1931, *Plyashushchy demon* (*The Dancing Demon*). Its nature defies exact description—it is a typical Remizov whimsy, part autobiographical, part fantastic and dreamlike. Its best section consists of fictitious memoirs of an old Russian scribe whose soul migrates from one historical or semi-historical character into another. Of the younger writers, Nina Berberova published in Paris a book of six long stories, *Oblegchenie uchasti* (*Alleviation of the Lot*), with life in exile for their setting. The historian of Russian literature in exile found much interesting material, especially in the memoir genre, in the three Russian journals appearing outside Russia: *Novy Zhurnal* (New York), *Vozrozhdenie* (Paris) and *Grani* (U.S. zone of Germany). The last named drew for contributions mainly upon displaced persons and former Soviet citizens now in Europe and was of special interest to students of contemporary Russia. (G. ST.)

RYE: *see* GRAIN CROPS.

SAAR. A German state (*Land*) united with France by monetary (from Nov. 20, 1947) and customs (from April 1, 1948) union. Area: 734 sq. mi. Pop. (1947 est.): 848,052.



Language: German. Religions: Roman Catholic 75%, Protestant 24%. Capital: Saarbrucken (pop. 1939 est.): 135,000; (June 1947 est. 97,752). High commissioner, Gilbert Grandval; prime minister (from Dec. 20, 1947), Johannes Hoffmann.

History. The Saar was not represented in the parliamentary council which was preparing at Bonn a new German constitution and was not one of the *Lander* of the German federal republic. According to its 1947 constitution, the Saar was politically independent of Germany and its defence and foreign policy were governed by France. In July 1949, therefore, Robert Schuman, the French minister of foreign affairs, asked all the countries who had signed the statute of the Council of Europe for the admission of the Saar as an associate member. On Nov. 4 he laid before the committee of ministers of the Council of Europe an application by the Saar government for associate membership. Dr. Konrad Adenauer, German federal chancellor, questioned the wisdom of the French policy of asking for the admission of the Saar as a condition of France's acceptance of Germany, but commented that it would be equally unwise for Germany to refuse to join the Council of Europe if the Saar were admitted as an independent member. On Nov. 9 the standing committee of the consultative assembly agreed to the entry of the Saar.

Economy. Production in thousand metric tons.

	Average 1936-38	1947	1948	1949
Steel	2,418	704	1,216	1,756
Coal	12,500	10,500	12,474	14,236
Electricity (million kwh.)	1,341	—	1,247	1,506
Gas (million cu. metres)	158	—	302	354

SADAK, NECMETTIN, Turkish statesman (b. Isparta, Turkey, 1890), was educated at the Galata Saray *lycée* in Istanbul and the University of Lyons, France. He returned to Turkey in 1914. His first assignment was with the ministry of public education. He also taught at the University of Istanbul, first as associate, then as professor of sociology. Owner and editor of one of Turkey's evening newspapers, *Akşam* (Istanbul), he was rated as one of Turkey's foremost editorial writers. He was elected deputy for Sivas in 1931 and was afterwards constantly re-elected. He was appointed foreign minister on Sept. 9, 1947, in the first cabinet of Hasan Saka, and retained this post in the second Saka cabinet as well as in the government formed on Jan. 16, 1949, by Şemsettin Günaltay (*q.v.*). When in July 1948 the U.S. state department started diplomatic negotiations which led

to the signature of the North Atlantic treaty, he suggested that a Mediterranean pact was also advisable. He represented his country at all the major international conferences and in Aug. 1949, at Strasbourg, attended the meeting of the Council of Europe to which Turkey was admitted.

SAED MARAGHEH, MOHAMMAD, Persian diplomat and statesman (b. Maragheh, N.W. Persia, 1882), was educated in Persia and entered the Persian diplomatic service at the age of 22. Between 1917-25 he was the Persian consul general to the republic of Azerbaijan. With one break for two years (1931-33) when he was governor of Persian Azerbaijan, he occupied many posts in the Persian diplomatic service. In 1933-34 he was director of the eastern department of the Foreign Ministry; 1934-36 minister in Moscow; 1936-38 minister in Rome and 1938-42 ambassador in Moscow. In 1942 he was appointed minister of foreign affairs which post he held for one year. In 1944 he became prime minister. During his premiership he had to deal with strong Soviet pressure on Persia to obtain oil concessions in the northern provinces. With the Soviet army occupying the northern parts of the country the Soviet government brought every kind of pressure on the Persian government to yield. Saed steadfastly refused to grant oil concessions to the Russians. Subsequently he had to retire from the political scene He was elected deputy for Rezaieh (N.W. Persia) in 1946. On Nov. 9, 1948, he was again appointed prime minister. In 1949 he was instrumental in carrying the Shah's constitutional reforms through the Majlis (*see* PERSIA).

ST. CHRISTOPHER: *see* LEEWARD ISLANDS.

ST. CROIX: *see* UNITED STATES TERRITORIES AND POSSESSIONS.

SAINT HELENA. British colony in the south Atlantic consisting of the island of that name and the two island dependencies of Ascension and Tristan da Cunha. Respective areas: 47 3, 34 and 13·5 sq. mi. Population (1946 census): 4,748, 292 and 230. Governor, Sir George Joy

The colony's resources being inadequate to provide work for its inhabitants, 100 farm workers sailed for the United Kingdom under a new government scheme for employment overseas. The fourth advisory council was constituted and appointed by the governor in June.

Finance. Budget (1947 est.): revenue £83,628 (including £49,170 from grants), expenditure £96,278. (J. A. HU.)

ST. JOHN: *see* UNITED STATES TERRITORIES AND POSSESSIONS

ST. KITTS-NEVIS: *see* LEEWARD ISLANDS.

ST. LAURENT, LOUIS STEPHEN, Canadian statesman (b. Compton, Quebec, Feb. 1, 1882), was elected leader of the Liberal party in Aug. 1948 and succeeded W. L. Mackenzie King as prime minister on Nov 15, 1948. (For his early career see *Britannica Book of the Year 1949*.)

In Feb. 1949 Louis St. Laurent visited President Harry S. Truman in Washington " to maintain friendly relationship between the two nations." He took part in the celebrations which were held on April 1, 1949, to mark the admission of Newfoundland into the Canadian confederation. Before the general election on June 27, he undertook an extensive speaking tour, and thus was prevented from attending the Commonwealth prime ministers' conference in London in April. The elections resulted in an outstanding victory for the Liberal party, which increased its representation in the House of Commons from 125 seats to 192. In March he was elected an honorary master of the bench of the Inner Temple in London and during the year received honorary degrees from McGill university, Montreal, and the Rensselaer polytechnic institute, Troy, New York.

ST. LUCIA: *see* WINDWARD ISLANDS.

ST. PIERRE AND MIQUELON: *see* FRENCH UNION.

ST. THOMAS: *see* UNITED STATES TERRITORIES AND POSSESSIONS.

ST. VINCENT: *see* WINDWARD ISLANDS.

SALAZAR, ANTONIO DE OLIVEIRA, Portuguese statesman (b. Santa Comba Dao, Coimbra, April 28, 1889), minister of finance from April 27, 1928, and prime minister from July 5, 1932. (For his early career see *Britannica Book of the Year 1949*)

In a speech at Oporto, on Jan 7, 1949, Dr. Salazar described himself as a free man since he owned no property worth mentioning and because he did not flatter either individuals or the masses. He had done enough, he said, to prove that his mission had not been a failure. On July 25, speaking in the National Assembly convened for the ratification of the North Atlantic treaty, he said that if the glory belonged to some, the victory of 1945 had in effect fallen to others. The U.S.S.R. could if it were so disposed, hurl its armies in a single thrust to the English channel and the Pyrenees. He made a strong plea for the inclusion of Spain in the treaty.

SALVADOR, EL. A republic on the west coast of Central America, the only one without a Caribbean littoral, and the smallest, but most densely populated country on the isthmus. Area: 13,176 sq mi. Pop. (mid-1948 est.): 2,100,000. Aboriginal and mixed races, *ladinos* and *mestizos*, constitute the bulk of the population. Chief towns (pop. 1944 est.): San Salvador (cap., 110,435); Santa Ana (47,631); Nueva San Salvador, formerly Santa Tecla (24,239). Language: Spanish. Religion: Roman Catholic. The government during 1949 was under the direction of a temporary *junta*.

History. The revolutionary *junta* which replaced President Salvador Castañeda Castro in Dec. 1948 maintained control over the country throughout 1949. However, preparations were made for drawing up a new constitution and returning to a democratic order. The resignation of Lieut. Colonel Manuel J. Córdova, announced on Jan. 5, as head of the five-man governing board left the chief direction of public affairs to Major Oscar Osorio. In October, however, Osorio and Rèinaldo Galindo Pohl both left the *junta* to campaign for the election of their partisans to an assembly empowered to draw up a new constitution. Major Oscar Bolaños and Dr. Humberto Costa remained in the governing body. Two decrees of a strong nationalist character were passed during the year: one outlawing all political parties with foreign financial support or with religious affiliations, and the other prohibiting commercial and industrial firms in the country from employing less than 90% national personnel.

El Salvador's favourable economic status was further bolstered in November by an increase of more than 65% in the value of its coffee on the world market. A new suspension bridge over the Río Paz boundary, jointly financed by Guatemala and El Salvador, was completed on July 14. One government decree establishing a universal social insurance programme for employees in the country and another formulating a settlement procedure for individual labour-management disputes went into effect on Oct. 12.

Education. Schools (1945): primary 1,519, teachers 3,701, pupils about 100,000; secondary 50, pupils 6,982; national university, students 835. National appropriations for education in 1947 amounted to 2·9 million colones.

Foreign Trade. Exports in 1948 totalled 45·6 million colones, including gold, silver and specie (40 1 million in 1947); imports, 41·5 million colones (36 9 million in 1947) The United States took 77% of the exports and furnished 73% of the imports Coffee (861,874 bags of 157 lb each, valued at 36 2 million colones) was the chief export commodity The 1948-49 coffee crop established a new national record of 1,190,920 bags.

Communications. In 1948 there were two major railways with 377 mi. of main lines; 700 mi. of surfaced highways and 1,250 mi of all-weather dirt roads, over 4,000 telephones and about 14,500 wireless sets

Finance. The monetary unit is the *colón*, valued at 40 U S. cents The 1949 budget called for expenditures of 62 million colones Currency circulation (Nov. 1949) 57·3 million colones. As at Aug 31, 1949, the Central bank's gold and foreign-exchange holdings amounted to 34·8 million colones (28 million colones on the same date of 1948). The foreign debt at the end of 1945 was 18 3 million colones.

(M. L. M.)

SALVATION ARMY. The year 1949 was crowded with customary Salvation Army activity, outstanding among which was a series of over 100 meetings conducted by General and Mrs. Orsborn in a 65 days' campaign in India, Pakistan and Ceylon Besides receptions, press conferences and broadcasts, the general was personally received by the prime ministers of India and Ceylon, and only the absence of Liaquat Ali Khan on state business prevented a similar meeting in Pakistan. Despite the changes in Commonwealth relationships the three governments concerned made it clear that the Army was to receive every facility for its ameliorative work.

A conference of leading officers from all five continents was held in June at Sunbury Court near London to consider the work of the army in relation to world conditions. In a detailed development plan £250,000 was scheduled to be raised by 1954 for advances in what are popularly known as missionary countries both in the east and west. In Europe additional efforts were made to take the gospel of Christ to the people. Intensive campaigns were undertaken in Scandinavia, Holland and France. A brave witness was maintained in Czechoslovakia and encouraging progress made in Germany where a number of new halls, the gift of Sweden and the U.S.A., were dedicated for public use.

Among the latest publications was *Maiden Tribute* by Madge Unsworth with a foreword by Lady Allen of Hurtwood (London, 1949) — a study of the Army's social work for women during 60 years. Its title was taken from W. T. Stead's *The Maiden Tribute of Modern Babylon* and it coincided with his centenary. A notable continental production was *Conquêtes en terre de bagne* by Charles Péan (Paris, 1948), a record of the awakening of public opinion in France to the need for penal reform in Guiana, of the suppression of the *bagne* and the final repatriation of prisoners—a work undertaken by the Army in 1946. Charles Péan, now second in command of the work in France, was made a knight of the Legion of Honour in recognition of his services. Other noteworthy books were *Anzac Padre* by Adelaide Ah Kow (London, 1949), *All the Days* by Alfred J. Gilliard (London, 1949), and *The First Salvationist*, a collection of sketches of pioneer Salvation Army leaders, by Frederick Coutts (London, 1948). (F. L. C.)

United States. In the United States, Commissioner Ernest I. Pugmire was the national commander, with headquarters in New York city.

The magnitude of the work done by the Salvation Army was indicated by statistics of its activities. In the United States during 1949 in line with its programme of carrying religion to people, the Salvation Army held 93,439 meetings on street corners. In its social services programme, 20,525 patients were treated in 6 clinics and dispensaries; 1,845 missing persons were located; 34 maternity homes and hospitals for unwed mothers cared for 2,285 women and children; 6,484 mothers and children were sent to summer camps.

In the field of prison work, 10,798 prisoners were assisted on discharge and given employment; 1,879 prisoners were paroled in care of the Salvation Army, whose officers devoted 17,012 hours to prison visitation. At its 70th annual convention, the American Prison association elected for the first time a Salvation Army officer, Envoy J. Stanley Sheppard, as president for 1950. (E. I. P.)

SAMOA, AMERICAN: *see* UNITED STATES TERRITORIES AND POSSESSIONS.

SAMOA, WESTERN: *see* NEW ZEALAND, DOMINION OF; TRUST TERRITORIES.

SAN MARINO. A small republic in central Italy, entirely surrounded by the province of Emilia and situated on the slopes of Monte Titano, 14 mi. S.W. of Rimini. Area: 38 sq. mi. Pop. (July 31, 1949, est.): 12,418. Language: Italian. Religion: Roman Catholic. San Marino is governed by two *capitani reggenti* appointed every six months by a Grand Council of 60 members elected by universal suffrage every four years.

History. Elections held on Feb. 27, 1949, resulted in a clear victory for the existing Socialist-Communist Committee of Freedom which won 2,815 votes as against 2,010 by the Christian Democratic alliance. In the Grand Council the government had 35 seats and the opposition 25, against 40 and 20 respectively before the elections. Relations between San Marino and Italy were somewhat strained and the Italian government suspended arrangements to pay several hundred million lire arrears under a 1939 treaty regulating the financial relations of the two countries. As the finances of San Marino were in a poor state—the deficit of the 1949-50 budget being estimated at L.220 million—the government, controlled by the Communist leader Gildo Gasperoni, decided in July to open a gambling casino as a tourist attraction.

Finance. Budget 1948-49 was allegedly balanced at L 420 million and that of 1949-50 at L 492 million San Marino uses the Italian currency

SANTO DOMINGO: *see* DOMINICAN REPUBLIC.

SÃO TOMÉ: *see* PORTUGUESE COLONIAL EMPIRE.

SARAWAK: *see* BRITISH BORNEO

SAUDI ARABIA: *see* ARABIA.

SCANDINAVIAN LITERATURE. Sweden. Sweden, even more than Norway and Denmark, gave the appearance of being the most advanced literary country in Europe, thanks mainly to the publishers: they were willing to risk money in publishing "uncommercial" books to encourage young writers who were experimenting to find a new literature which could take its place side by side with the old. Among new authors in 1949 was Arne Sand, who won the Strindberg prize with a novel, *Förfoljaren*, and Per Olof Ekström, who published his second book, *Sommardansen*. An excellent book of short stories was *Sälla jaktmarker*, by Lars Goransson, and the most outstanding new poet was Lars Forssell, with *Ryttaren*. The established authors were well represented. A rare event, eagerly awaited by connoisseurs, was the appearance of another book by Tage Aurell, *Nya berättelser*. A special edition of short stories by Bo Bergman was brought out in honour of his 80th birthday; Vilhelm Moberg's novel *Utvandrarna* was the first of a series dealing with Swedish emigration to America; Olle Hedberg's yearly novel, *Mera vild än tam*, was a continuation of *Dan före dan;* Eyvind Johnson dealt with mediaeval France in *Drömmar om rosor och eld;* admirers of Moa Martinson were

treated to *Livets fest;* Yngve Kernell wrote a graceful story about Goteborg at the time of Napoleon, *Det började med lek;* Berit Spong stirred up a hornet's nest with *Sjovinkel*, a novel about an actual academic dispute in a country town; and Björn-Erik Hoijer wrote an exciting novel set in the north of Sweden, *Trettio silverpengar*. Folke Fridell's new novel, *Bekännelse*, also had a country setting. Lars Ahlin wrote a study in feminine psychology, *Huset har ingen filial*, and Stig Dagerman, as with his previous novel *Bränt barn*, turned his piercing searchlight of psychological analysis on to the human mind in *Bröllopsbesvär*. Another gifted novelist, Peder Sjögren, justified his earlier reputation with *Mannen som forsökte smita*.

Sweden lost a gifted poet with the death of Vilhelm Ekelund on Sept. 3, and both Axel Munthe (*see* OBITUARIES) and Elin Wägner also died in 1949. The most important volumes of poems were Karl Vennberg's *Fiskefard*, Werner Aspenstrom's *Snolegend*, and Artur Lundkvist's *Fotspar i vattnet*. Stina Aronson, who had previously made a name for herself with her novels dealing with life north of the Arctic circle, published a collection of poems, *Kantele*. Among non-fiction must be mentioned Elsa Bjorkman-Goldschmidt's brilliant account of Vienna after World War II, *Wien vaknar*, and Prins Wilhelm's book of travels, *Skarvor från fyra världsdelar*, which was written with the author's usual warm interest in nature and human nature. Another book of great charm was Sigfrid Siwertz' memoirs, *Att vara ung*, and of interest was Fredrik Book's account of the poetess Victoria Benedictsson's love for Georg Brandes, taken from the former's diary.

Norway. The whole world joined with Norway in mourning the death of Sigrid Undset (*see* OBITUARIES), whose excellent biography by A. H. Winsnes was published later in the year with the sub-title, *A study in Christian realism*. Tarjei Vesaas showed his usual deep understanding of human nature in his novel *Det store spelet*, and a book of poems, *Lykka for ferdesmenn*. Ingeborg Refling Hagen continued the previous year's autobiographical novel with *Jeg vil lete og banke;* Andreas Markusson dealt with the north of Norway in the 17th century in *Gjennom brenningen;* Sigurd Evensmo with adolescent love in *Flaggermusene*. Arne Vaagen's novel in 1949 was *St. Albans klokke*, and Nils Johan Rud's, *Vi var jordens elskere*. Gabriel Scott wrote a gay and satirical comedy, *Pukkelen*, and published poems included *Før brevet lukkes*, by Astrid Tollefsen, *Til minne om idag*, by Carl Keilhau, and *Sånn vil du ha meg*, by Inger Hagerup.

Knut Hamsun, considered at the outbreak of World War II as one of Norway's greatest writers, wrote an account called *På gjengrodde stier* of what happened to him after Norway's liberation and his trial as a pro-nazi; Harry Fett, the well-known art-historian and editor of *Kunst og Kultur*, wrote his reminiscences, *På kulturvernets veier*, an edition appeared of the letters of the famous artist Edvard Munch; and also of interest to lovers of art was H. Stenstadvold's *Norske malerier gjennom hundre år*. An exciting travel book was *Kon-Tiki Ekspedisjonen*, by T. Heyerdahl.

Denmark. Among the outstanding novels of 1949 were *En børneflok vokser op*, by Harry Søiberg; *Hansen*, an excellent study of a lonely school-teacher, by J. Anker Larsen; *Den sorte gryde*, by William Heinesen, set in the Faeroe Islands; *Glasbåden*, by Karen Enevold; *Lykkens tempel*, by Kelvin Lindemann, a satirical fantasy about the mistake made by the 18th century poet Johannes Ewald in coming to life in " the modern bureaucratic age "; another admirable novel by Aage Dons, *Og alt blev Drøm*. H. C. Branner showed a new aspect of his literary skill in *Rytteren*, and Hilmar Wulff completed his trilogy with *Forjaettelsens Dag*.

A loss to Danish poetry was the death on Aug. 30 of Kai Hoffman. Niels Kaas Johansen edited an excellent anthology of modern poets, from Gustaf Munch-Petersen to Ole Sarvig and Jørgen Nash, called *Ung dansk lyrik;* an outstanding collection of poems by Jens August Schade, called *Jordens største lykke*, was illustrated by Inga Lyngbye; Grete Bendix published new poems called *Alting kalder*, and Harald Herdal, in addition to publishing an edition of poems written between 1929 and 1949, produced a novel, *Ukuelige menneske*. The promising young poet Otto Asmus Thomsen brought out *Stormen*.

General literature included a biography of the great Swedish mystic, Emanuel Swedenborg, by Signe Toksvig, who had previously written a biography of Hans Andersen; and memoirs by Karin Michaelis, *Vidunderlige Verden* and *Farlige Familen*, and the actress Clara Pontoppidan, *Eet Liv-mange Liv*. The periodical *Heretica* continued to flourish; but two others, *Samleren* and *Bogrevyen*, were not so fortunate and took farewell of their readers with *Den danske muse*, an artistically produced survey of Danish culture during the last 100 years.

Iceland. Iceland's greatest living writer, Halldór Kiljan Laxness, wrote a modern heroic saga which appeared in Sweden under the title *Fria män*. He was previously known there through earlier translations, *Salka Valka* and *Islands klocka*. Three writers whose work was published in Denmark during 1949 were Gudmundur Danielsson (a novel, *Jorden er min*), Fridjón Stefánsson and Thorsteinn Stefánsson (short stories, *Mens Nordlyset danser*).

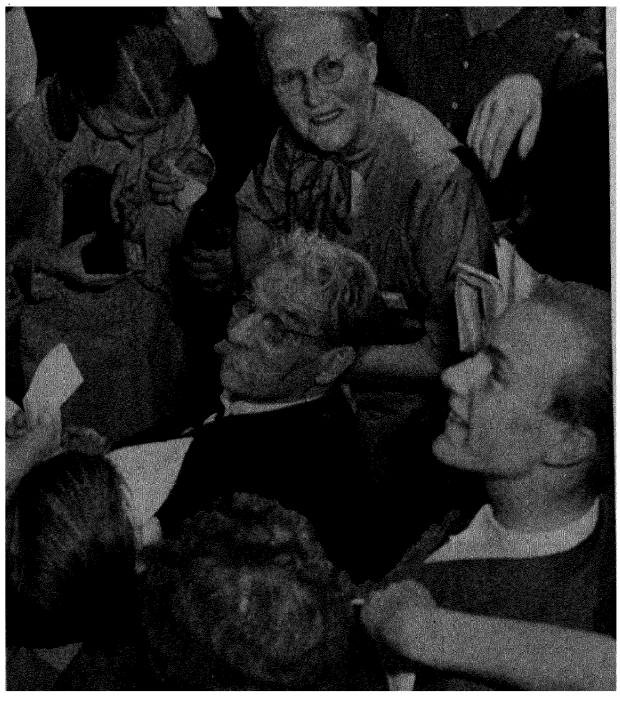
Finland. Two Finnish writers whose work appeared in a Swedish translation were Mika Waltari (a historical novel, *Mikael Ludenfot*) and Yrjo Kokko (a novel about the Lapps, *De fyra vindarnas vag*). Finland-Swedish authors included Rita von Willebrand (a novel, *Så var med dem*) and Walentin Chorell (a novel, *Blindtrappan*). Two interesting first books by Finland-Swedish women writers were *Stoft är min skönhet* by Mary Mandelin (short stories), and *Fågelvinge ur dunklet* by Heli Parland (poems) A brilliant Swedish translation by Elmer Diktonius appeared of the famous novel by Aleksis Kivi, *Seitseman veljesta*. Among the most noteworthy novels by Finnish writers were: *Anja*, by Kersti Bergroth; *Jauhot*, by Pentti Haanpaa; *Oudot virrat*, by Onni Halla; *Tuhopolttaja*, by Helvi Hamalainen; *Virvatulia*, by Aino Kallas; *Kellonsoittaja*, by Kyllikki Mäntyla; and *Lepakko*, by Oiva Paloheimo. (A. BLR.)

SCHUMAN, ROBERT, French statesman (b. Luxembourg, June 29, 1886), from Sept. 11, 1948, minister of foreign affairs. (For his early career see *Britannica Book of the Year 1949*.)

On April 4, 1949, in Washington, he signed the North Atlantic treaty for France; referring to France's existing treaty of mutual aid with the U.S.S.R., he said that there was no contradiction between the two. He also took part with Dean Acheson and Ernest Bevin in discussions on Western Germany summarized in a communiqué published in Washington on April 8. On July 13, at Luxembourg, the honorary citizenship of the city was conferred upon him. In the French National Assembly on July 25, in the debate on the ratification of the North Atlantic treaty, he declared that it had been forced upon France by the eastern *bloc* which came into existence even before the signature of the Brussels treaty. " The cold war could not be suffered passively," he said. In August Schuman was present at the opening of the first session of the Council of Europe at Strasbourg. He attended the first session of the North Atlantic council in Washington, on Sept. 17, and on Sept. 23 addressed the 4th session of the U.N. general assembly at Flushing Meadow, New York. On Oct. 1-3 he visited Ottawa, Quebec, Montreal and Toronto. On Oct. 28 he was re-appointed minister of foreign affairs in the Georges Bidault cabinet. Speaking on Nov. 13 at Montigny, Loiret, he

said: "Geography makes it necessary for us to build a Europe with Germany. We must give Germany her place in Europe, but nothing more than her place." The next day, at a press conference in Paris, he added that there was no question either of German rearmament or of German admission to the North Atlantic treaty.

SCHWEITZER, ALBERT, German-speaking theologian, philosopher, musician and physician (b. Kaysersburg, Alsace, Jan, 14, 1875), educated at the University of Strasbourg, where he passed his first theological examination (1897); he also studied at the Sorbonne, Paris, and at Berlin university (Ph.D. in 1899). During the next few years, while writing the first of his books on the teachings of Christ, he also continued his career as a musician (he had begun to study the piano at the age of five and went on giving organ recitals for many years). He also began the study of medicine, with a view to becoming a medical missionary, and received his M.D. degree in 1913. In the same year he embarked with his wife (Helene Marianne Bresslau whom he married in 1912) for Lambarène, Gabon, French Equatorial Africa, where the couple treated 2,000 native patients before they were interned as enemy aliens during World War I. They were released in 1918, after spending much time in internment camps in France. Dr. Schweitzer resumed his studies of tropical diseases, while completing a book on the philosophy of civilization. Until 1939 he spent intermittent periods at his African mission post between his European tours, on one of which he gave at Frankfurt, in 1932, the Goethe centenary address (he received the Goethe prize in 1928). Upon the outbreak of World War II his African hospital was isolated by the struggle between the Vichy and the Free French forces; and for three years his hospital survived thanks only to food and drug reserves he had provided before the war. On Aug. 28, 1949, he was present at the bicentennial celebrations in Frankfurt of Goethe's birth and received a great ovation. He spent his 75th birthday at his African hospital.



Albert Schweitzer surrounded by autograph seekers in Frankfurt, Aug. 1949, during celebrations to mark the bicentenary of the birth of Johann Wolfgang von Goethe.

SCOTLAND. Part of the United Kingdom. Area: 30,400 sq. mi. (including inland water 557 sq. mi.). Pop.: (June 30, 1949, est.): 5,175,000.

History. Scotland made important endeavours in 1949 to expand her export trade and also concentrated a considerable amount of energy on research of all kinds. The secretary of state for Scotland, Arthur Woodburn, held regular meetings of his Economic conference in Edinburgh and matters concerning industry, commerce, agriculture, forestry were discussed, the two latter subjects bringing special attention to the Highlands and Islands and their economic position, which was also investigated further by the Advisory Panel on the Highlands and Islands set up in 1947.

The two most important features in Scotland's economic life were first, the Scottish Industries exhibition, sponsored by the Scottish council (Development and Industry) and held in Glasgow in September at the same time as Edinburgh was engrossed in the International Festival of Music and Drama; second, the trade expansion tour by the chairman (Sir Steven Bilsland) and several members of the Scottish council.

The Queen opened the exhibition, which had five main objectives: to increase exports; to promote inter-trading between Scottish firms; to stimulate productivity by showing workers the final results of their efforts; to increase appreciation of good quality workmanship and design; and to publicize Scotland and Scottish products throughout the world. Over 30,000 buyers from practically every country in the world visited the exhibition and the orders made known to the council totalled over £10 million, at least half of which came from overseas, including the dollar countries. Attendance at the exhibition ran to over half-a-million people.

The trade mission visited the United States and also Canada and made many contacts useful to Scotland in its export drive. Industrial concerns in America were to investigate the opening of factories in Scotland.

In research the greatest interest was focused on the development of the gas turbine engine for industrial purposes and in experiments on the use of peat as the driving fuel. The work was still proceeding at the end of the year. At the new town of East Kilbride, in Lanarkshire, some work was started on the government's research stations for mechanical engineering, roads, fuel and building. Other aspects of research which went ahead dealt with fisheries, seaweed and the jute and woollen industries.

Town and country planning received much attention through the publication of reports giving long term plans for the Clyde valley, central Scotland, the Tay valley and Edinburgh city.

The weather throughout the year was exceptionally favourable to agriculture, the summer especially being dry and sunny so that the grain and potato harvests were secured in well-nigh perfect condition. While the work of repairing the damage done in the very serious floods of Aug. 1948 was practically completed, a set-back in the form of further flooding occurred in some parts of the country which had suffered a year earlier.

Afforestation made rapid strides and the Forestry commission by 1949 employed over 4,000 workers. Almost 50,000 ac., of which approximately half were plantable, were acquired. The total acreage planted was 20,000 as compared with 16,000 ac. in the previous year. The first houses in the first forestry village in Britain came into occupation in the autumn at the new village of Ae, Dumfriesshire.

Progress in housing generally was maintained and the building trade available for housing was fully occupied although there were some difficulties in the supply of building materials. The 1948 figure of permanent houses completed was substantially exceeded. Special programmes of houses for miners and agricultural workers were carried forward,



Dancers of the Highland Light Infantry at the International Festival of Music and Drama in Edinburgh. The first festival was held there in 1947.

and 1,000 Swedish timber houses imported into the Highlands and Islands.

Attention was focused on the Highlands and Islands by various departments dealing with afforestation, agriculture, hydro-electricity and tourism, and this brought to the outlying districts a more hopeful outlook. At the end of the year the large hydro-electric power schemes at Loch Sloy near Loch Lomond, and at Clunie, on the Tummel, Perthshire, were approaching completion. The installation of plant began at three others of the bigger projects in course of construction and distribution of electricity increased so that the North of Scotland Hydro-electric board were supplying power to 800,000 people, and new consumers were being added at the rate of 1,500 a month. On their own account, and in collaboration with the Scottish Home Department and Scottish industry, the board were carrying through various lines of research, into the generation of electricity by wind power at isolated points on islands off the coast; into trout propagation and protection; and into the commercial value of peat as a fuel. Several large schemes of the board were to start at later dates as a result of the government decision to ration capital expenditure.

The large volume of social legislation passed in 1948 began to take effect on a wide scale. Extensive use was made of the National Health service. Local authorities took steps under the Children act to acquire premises for children's homes and to appoint committees and children's officers charged with the welfare of young people deprived of a normal home life.

The exchange of teachers, students and pupils between Scotland and other countries overseas expanded to a marked degree; and at home the schemes for further education increased the numbers of students attending evening classes and technical and commercial colleges. More young workers were released voluntarily by employers to attend day classes, and training courses for leaders attracted students from overseas.

Many thousands of visitors toured Scotland and, to encourage more to come, direct sailings between America and the Clyde were arranged. Once again the Edinburgh International Festival of Music and Drama stood out as the greatest attraction in bringing visitors to Scotland and it was now firmly established as one of the annual outstanding cultural events of Europe—indeed, throughout the world.

(D. ME.)

SCOTT, GUTHRIE MICHAEL, Church of England clergyman, (b. Lowfield Heath, Sussex, July 30, 1907) was educated at King's college, Taunton. At 19 he went to South Africa to work in a mission to lepers. He began his training for Holy Orders at St. Paul's Theological college, Grahamstown, Cape of Good Hope, in 1927, completed it in England at Chichester Theological college and was ordained in 1932. After periods in Sussex and London as a curate, Scott went to India in 1935 as chaplain to the Bishop of Bombay and then became senior chaplain to St. Paul's cathedral, Calcutta (1937-38). During World War II he served in the R.A.F. in England as air crew, but was invalided out and in 1943 returned to South Africa where he was appointed to assist at St. Alban's coloured mission and to be chaplain to a coloured orphanage in Sophiatown, Johannesburg. During riots in Durban in 1946, Scott, who had been sent there to observe, was so impressed by the cause of the Indian " passive resisters " that he joined their ranks; this led to his being sentenced to three months' imprisonment (July 1946). On his release he resigned his parochial work and was granted a general licence to preach in the diocese. Asked to assist in organizing Tobruk shanty town,

Johannesburg, he took up quarters there and was charged with living in a Native area, receiving a suspended sentence. Reports of the treatment of native labour in the Transvaal and individual appeals reached Scott who went to investigate. The conditions he found made him champion the native cause, especially that of the Herero tribe of South-West Africa. In 1949, despite many obstacles, he attended the U.N. general assembly and presented the Herero case to its Trusteeship committee on Nov. 26.

SCULPTURE. Though more severely conditioned than the other visual arts, and therefore slower moving, sculpture in the 20th century shows the same great fissures as they do, the result of the opposition of romanticism and classicism and of the academic and the experimental spirit. Very broadly, sculpture in 1949 may be considered under four main heads.

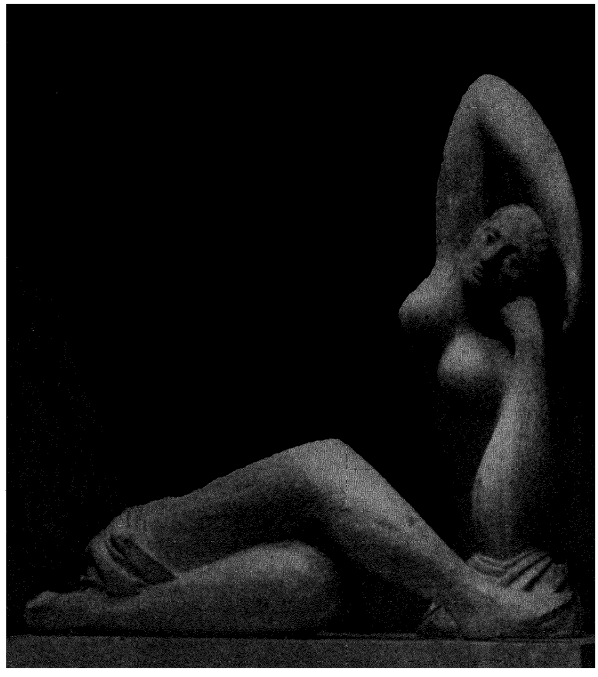
Academic classicism was still affected, except in eastern Europe, by the reaction against the mock-heroic and sentimental values of the 19th century. In its approach to sculpture it was Aristide Maillol's restatement of Renaissance concepts which remained the dominant influence, and nearly every country could boast a number of sculptors to echo, in some measure, the achievements of Fritz Wotruba in Austria, or Frank Dobson and Karin Jonzen in Great Britain. Less opulently ripe and dependent upon a nervous sensitivity of surface, was the work of those followers of Charles Despiau, and those Italian sculptors like Giacomo Manzù and Marino Marini who drew upon classical and Etruscan sources.

Academic romanticism showed itself mainly in the mildly expressionistic carving of northern Europe—in the work of Ivar Johnsson and Bror Hjorth in Sweden, John Rädecker in Holland, and postwar successors of Ernst Barlach in Germany. The rugged humanism of these artists, often allied to an underlying sense of tragedy, was most frequently expressed through wood-carving. Another romantic strand that called for mention was that deriving from the impressionism of Auguste Rodin; but so personal an idiom failed to provide a general springboard for a succeeding generation that placed its faith mainly in direct carving. The academic approach to sculpture degenerated at its weakest into conventional and commonplace transcriptions of reality. At its best, the academic formulæ were reanimated with greater freshness and vitality than in the field of painting.

Classicism in experimental modern sculpture found its roots in the rediscovery of primitive art, in the simplified and formalized masks and figures of Africa especially. It developed through the geometry of the cubist revolution to the almost mathematical constructions of metal, glass and plastic conceived by the Russians, Antoine Pevsner and Naum Gabo, and the Swiss, Max Bill. In Britain, Ben Nicholson and Barbara Hepworth produced work of geometric abstraction but neither exhibited during 1949.

The most fruitful field was perhaps that embraced by those essentially romantic experimental sculptors who drew upon organic and often biomorphic forms as a basis for their own free invention. Constantin Brancusi, one of the most eminent, remained in semi-retirement. The most powerful influences were probably Pablo Picasso, whose rich storehouse of inventions was constantly raided; Hans Arp, to whom the Italian Alberto Viani was in debt; and Henry Moore. Moore, in his fiftieth year, was honoured by an impressive exhibition at Wakefield in Yorkshire, later seen in Brussels and Paris at the beginning of a long continental tour. This included a model of the family group being cast for erection at Stevenage, Hertfordshire.

Three other British sculptors seen to advantage during the year were F. E. McWilliam, who exhibited a number of his semi-surrealist pieces; R. Butler, who showed ingenious



" Reclining Woman " by F. E. McWilliam, exhibited in Nov. 1949 at the winter exhibition of the Royal Society of British Artists.

inventions in wrought iron; and Robert Adams who, in London and Paris, showed a developing skill in semi-abstract wood carving. The Royal Society of British Artists concentrated, in their winter exhibition, upon sculpture and produced the most lively mixed show of the year. S. J. Charoux, H. Henghes, Keith Godwin, John Skeaping, and Leon Underwood were among those exhibiting.

If any two traits could be said to predominate during the year, they were diversity of material (allied to consciousness of and respect for its innate qualities), and a growing tendency among sculptors in all countries to think, not in terms of solids but of space itself. Once liberated from the bonds of representation, sculpture began to explore the hollow, the declivity, the mysterious tunnel. First Alexander Archipenko, then Pablo Picasso, Jacques Lipchitz, Alberto Giacometti (who remained a strong influence), the Russian constructivists, Hepworth and Moore pursued this new course with growing confidence, until they had pierced their solid material through and through. It seemed likely that younger artists—for example Adams and Eduardo Paolozzi in Britain—would maintain this pre-occupation, not only with the movement in space represented by interpenetrating planes of string or plastic, but with all the possibilities of " negative " sculpture in which the *absence* of mass is the motif. In this they would relate their work to some degree with developments in Parisian non-figurative painting. (M. H. MN.)

United States. Despite the concern for new ideas, greatest achievement was shown in classical sculpture projects, such as the monumental groups by James Earle Fraser and Leo Friedlander for the Lincoln memorial circle at the approach to the Arlington memorial bridge in Washington. Four heroic equestrian groups for this site reached the bronze-casting stage. With memorial sculpture in wide demand, among the prominent examples completed were a bust of James Forrestal, former secretary of defence, designed by Kalervo Kallio for the national capital, and a heroic George Washington figure for the masonic national memorial at Alexandria, Virginia, completed by Bryant Baker.

Abstract sculpture undertook to supply fresh solutions for

monumental and decorative projects, receiving occasional encouragement, while appealing routine work was done in various styles for public and business buildings, notably in the relief form. Most unusual was the adaptation of sculpture to a new purpose by Isamu Noguchi, who turned his talent for imaginative abstract forms to the designing of modern furniture, considering a chair or a table as a piece of sculpture.

Alberto Viani, with the classical sculptors Giacomo Manzù and Marino Marini, who drew impressively upon classical and Etruscan sources, were shown in New York's Museum of Modern Art exhibition of contemporary Italian art.

In the United States, Jose de Creeft producing romantic and decorative work, Theodore Roszak experimenting in metal, the romantic Koren der Harootian and David Hare, who exhibited expressionistic sculpture, all worked in the forefront of the profession.

The Whitney Museum of American Art, New York city, devoted most of one of its annual exhibitions to sculpture, placing a strong accent on advanced contemporary styles. Perhaps the largest concentration of all was the massive Sculpture International in Philadelphia. (*See* also ART EXHIBITIONS; ART SALES; MUSEUMS.) (C. BU.)

SEISMOLOGY. The strongest earthquakes of 1949 were those of July 10 in Soviet Turkestan and Aug. 22 off the coast of British Columbia. Both were magnitude 8 on the instrumental scale, but damage was limited because of the location. The most disastrous shock of the year, on Aug. 5 in central Ecuador, killed more than 8,000 persons, injured 20,000 and caused property damage of several million dollars. Pacific northwestern United States experienced the worst earthquake in its recorded history on April 13. The Puget Sound cities of Olympia, Tacoma and Seattle were hardest hit. Damage in Washington was estimated to be at least $15 million. On April 20 the most severe earthquake in Chile for ten years was reported to have killed 57, injured 89, and caused considerable property damage. Shocks also caused damage in Nevada and California in the United States, and in Turkey, Arabia and the Philippine Islands.

Publication of the results of the seismic refraction surveys at Bikini indicated a depth of several thousand feet below the lagoon floor to the igneous basement rock. Seismic reflection surveys in the Atlantic suggested a reflecting horizon at depths ranging from negligible to several thousand feet beneath the ocean floor. Microseisms continued to engage the attention of many seismologists because of their meteorological and oceanographic applications. A relationship between cold fronts and microseism storms was reported by several observers, but others supported the theory of variations of pressure on the sea floor accompanying a low-pressure area as the origin of microseisms. (M. C. RT.)

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SENANAYAKE, DON STEPHAN, Sinhalese statesman (b. 1882), became prime minister of Ceylon on Sept. 26, 1947. (For his early career see *Britannica Book of the Year 1949*).

On Feb. 4, 1949, the first anniversary of dominion status for Ceylon, D. S. Senanayake laid the foundation stone of the independence memorial building at Independence square, Colombo. In April he attended the Commonwealth prime ministers' conference in London, and on April 29 visited Dublin where he was received by President Seán O'Kelly and members of the government. In August he unveiled a monumental pillar at the Galoya hydro project. In November he sent invitations to the premiers of the Commonwealth countries suggesting a meeting of foreign ministers in Colombo early in 1950.

SENATE, U.S.: *see* CONGRESS, U.S.

SENEGAL: *see* FRENCH UNION.

SEWERAGE. Draft orders were deposited and objections were considered prior to the setting up of 17 river boards under the River Boards act, 1948, with the functions of fishing, conservation of water supplies, drainage and pollution control. The areas included most of the catchment areas of English and Welsh rivers. At the request of the Port of London authority, the Water Pollution Research laboratory of the Department of Scientific and Industrial Research began a detailed survey of the River Thames from Teddington to the sea, the impurity of the river having been a matter of concern for many years. The last two reports of the British Field Sports society dealing with river pollution in several rivers, including the Great Ouse, Nene and those of south Wales and Scotland, were published in 1949 drawing attention to the badly polluted state of most of the rivers in Great Britain.

Many local authorities proceeded with the construction of sewerage schemes during 1949, including the county of Middlesex and Bournemouth, Bristol, Peterborough, Plymouth and Poole. A scheme to constitute the Hogsmill Valley Joint Sewerage board, including the construction of works estimated to cost £1 million, to cover the areas of Kingston, Malden, Surbiton and Epsom in Surrey was considered at a Ministry of Health enquiry and approved in principle. Construction proceeded with the sewerage works for several of the satellite towns, including Aycliffe, Stevenage, Harlow, Peterlee and Crawley. The Colne Valley Sewerage board's works at Maple Lodge near Rickmansworth, which were commenced in 1938, made substantial progress during 1949 and, when completed, would deal with the treatment and disposal of sewage from Watford, Rickmansworth and their neighbouring districts, with a population of over 500,000 people. The new town development of Hemel Hempstead would also discharge its sewage to these works.

The ever-growing needs of the Metropolitan Water board were such that sewage effluents could not now be diverted from the Lee valley and, in consequence, the responsibility existed for certain towns in that valley to produce a higher standard of treatment of effluent than was required by the Royal commission. A similar problem was appearing elsewhere. (J. KD.)

SEYCHELLES. British colony in Indian Ocean. Area: 156 sq mi. Pop. (1947 census): 34,594. Governor, Dr. P. S. Selwyn Clarke.

History. A Court of Appeal judgment invalidated legislation passed in Nov. 1948 by an improperly constituted Legislative Council. Strong exception was taken locally to the nomination to the Legislative Council by the governor of C. Collet, formerly acting attorney general. During the year a number of cases came before the court for the refund of income tax paid under alleged "threats" during Collet's attorney generalship. In giving judgment on these cases the chief justice expressed himself forcibly, stating on one occasion, "No doubt the fullest enquiry will now be made in England as to exactly how it came about that this man was appointed even temporarily to a responsible post in a British colony in the colonial legal service . . . The methods adopted in this case to extort money from the plaintiff are absolutely appalling. The British administration of a colony overseas has been brought into grave disrepute." The administration of the colony was debated in the House of Commons. Towards the end of the year Collet resigned from the Legislative Council. (J. A. HU.)

Finance and Trade. Budget (1949 est.) revenue, Rs 3,286,436, expenditure, Rs.3,424,085. Foreign trade (1948): imports, Rs.4,792,877, exports, Rs.5,237,618. Currency: 1 rupee = 1*s.* 6*d.*

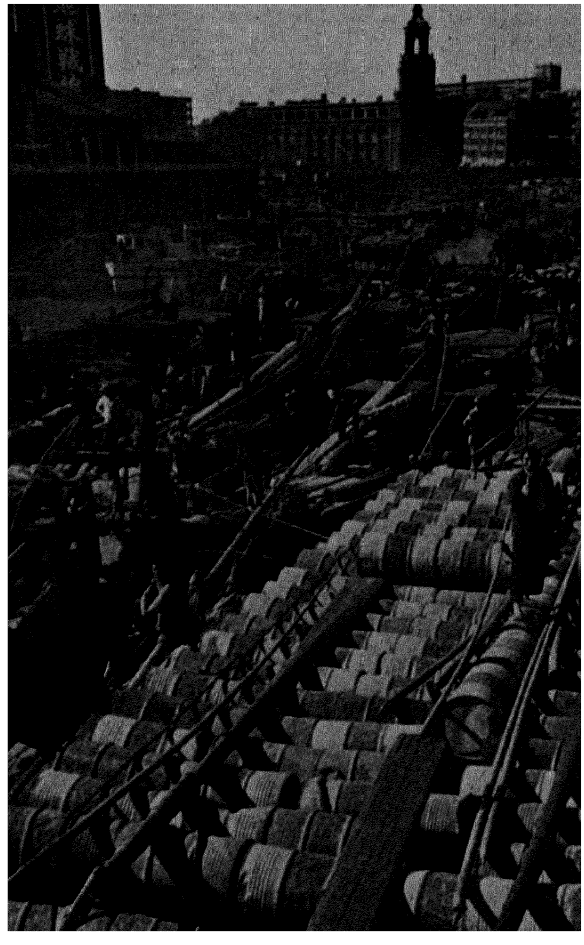
SFORZA, COUNT CARLO, Italian statseman (b. Montignoso di Lunigiana, Liguria, Sept. 25, 1873), entered the diplomatic service in 1895 and served in Cairo, Paris, Constantinople (Istanbul), Peking (Peiping), Bucharest, Madrid and London. In 1906 he was secretary of the Italian delegation to the Algeciras conference, and in 1908-9 *chargé d'affaires* in Istanbul. From March 1910 to March 1911 he was *chef de cabinet* to the Marquis di San Giuliano, the foreign minister; from 1911-15 minister to China and from 1915-18 minister to Serbia. In Nov. 1918 he returned to Istanbul as high commissioner for Italy. From June 1919 to June 1920 he was under secretary of state for foreign affairs; on Aug. 3, 1919, he was appointed senator. From June 1920 to July 1921, he was minister of foreign affairs. Appointed ambassador to France in Feb. 1922 he resigned nine months later, refusing to serve under Mussolini. For two decades he lived abroad—in Belgium until 1939 and in the United States after 1940. He returned to Italy in Oct. 1943. He was minister without portfolio in the cabinets of Marshal Pietro Badoglio (April-June 1944) and Ivanoe Bonomi (June-Nov. 1944), high commissioner for *epurazione* (June 1944-Jan. 1945) and president of the Consultative Assembly (Sept. 1945-May 1946). Elected a member of the Constituent Assembly on June 2, 1946, as a Republican, he joined the third Alcide De Gasperi cabinet (on Feb. 2, 1947) as minister of foreign affairs. His influence was a determining factor in the Italian parliament's ratification of the peace treaty, in Italy's joining the Organization for European Economic Co-operation and its adherence to the North Atlantic treaty which Count Sforza signed for Italy in Washington on April 4, 1949. He returned to Washington five months later to take part in the first meeting of the North Atlantic council (Sept. 17). At a press conference in Rome, on Dec. 15, he blamed Britain for the deterioration in Anglo-Italian relations.

SHANGHAI, the commercial metropolis of China and its largest city, world's fourth largest town and one of the world's greatest seaports. Area: 345 sq. mi. Pop.: (1948 est.) 4,630,385, (May 1949 est.) 5,000,000.

The financial and economic disintegration which had been developing in China during the previous three years and which had seriously affected the commercial and industrial life of Shanghai was much accentuated at the beginning of 1949, as the contending forces in the civil war approached the Yangtse river; by early March the cost of living, expressed in Chinese national currency, called " gold yuan," was 15,000 times the Aug. 1948 level. On April 1 the mayor, Wu Kuo-cheng (K.C. Wu), retired and was succeeded by Chen Liang but on April 25 the evacuation of all officials was ordered. The occupation of the city by Communist forces was completed on May 24. Authority was vested in a commission of control under General Chen Yi, who was also nominated mayor.

On June 27 the Nationalist government proclaimed the " closure " of a large part of the coast, including the entrance to Shanghai. Though this blockade was regarded as illegal by the principal foreign powers it nevertheless brought overseas trade to a standstill, leading to shortages of food and raw materials and to steeply rising prices and widespread unemployment. Towards the end of the year, however, strong efforts were made by shipping interests to re-open the port to overseas trade, and blockade-runners began to appear in increasing numbers. At the same time measures taken by the government to bring supplies of food and raw materials from the hinterland made themselves felt in a welcome fall in the cost of living. (G. MIT.)

SHARETT, MOSHE, Israeli statesman (b. Kherson, Ukraine, Oct. 1894), went to Palestine as a boy of 12. He studied at the University of Istanbul before World War I and in 1924 received a degree at the London School of Economics. As a Turkish subject he was conscripted into the Turkish army and served as a lieutenant during World War I. In 1924 he became assistant editor of the newspaper *Davar*, organ of the Jewish Labour party in Palestine; in 1929 he was editor of its English weekly supplement. Two years later he was appointed political secretary to the Jewish Agency, and in 1933 became head of its political department. During World War II he persuaded British military authorities to agree to organize Jewish units in the British army. In June 1946 he was arrested with other members of the Jewish Agency executive and spent five months in the Latrun detention camp. On May 14, 1948, he was appointed minister of foreign affairs of the first Israeli government. On March 8, 1949, he was re-appointed to the same office in the second Ben-Gurion (*q.v.*) cabinet. About the same time he changed his name from Shertok, which was of Russian derivation, to Sharett, a Hebrew word meaning " one who serves." On Nov. 11, 1922, he married Zipporah Meirov and they had three children.



The waterways of Shanghai jammed by barges and other craft early in 1949 before the capture of the town by Communist forces in May 1949.

SHEEP: *see* LIVESTOCK.

SHIPBUILDING. Shipbuilding in the United Kingdom during 1949 was distinguished by a better flow of materials and equipment, which permitted greater production than in 1948. A start was made with more of the orders

already on the books of the companies. During the closing months of 1948 many contracts had been placed for oil tanker vessels and these now represented a bigger proportion of the tonnage under construction than ever before. Work was still proceeding on some large liners but fresh contracts for ships of this class were unusual. Builders were still awaiting more orders for ordinary cargo, or tramp, vessels. Few such ships had been built after the end of World War II. High prices, declines in rates in the freight markets and the sale of many ships built in the United States during World War II and also of some vessels constructed in Canada had been influences which deterred contracting. Many cargo ships continued to be employed which their owners would have liked to replace with modern and more efficient craft had they been able to earn depreciation and moderate interest on the larger capital required. There were, however, some exceptions to the managements that hesitated to order new tonnage.

Experience during the greater part of the year showed that diesel ships and steamships burning oil could still be traded profitably at the lower levels of freight rates, whereas losses would have been incurred in the employment of coal-burning steamships with coal at about £4 a ton in the United Kingdom. The advantage which ships consuming oil had over steamships was, however, largely lost when, after the devaluation of sterling in terms of dollars in September, oil prices outside the United States were raised by about 40%. There remained, however, the merits which the use of oil had over the burning of coal in cleanliness, speed of bunkering and reduction of labour. Freight rates were too slow to respond to the higher cost of expenditure in dollars in world trades, owing to an apparently sufficient supply of the tonnage available for the trade offered. With a general increase in freight rates needed for oil consumers, coal-burning ships would benefit to a greater extent. There was, however, the heavier charge for the upkeep of ageing ships.

The amount of shipping under construction in Great Britain throughout the year remained at rather over two million tons gross, according to the quarterly returns of Lloyd's register. This figure was below the peak of 2,244,000 tons which was reached in June, 1948. On March 31, 1949, there were being built in the United Kingdom 2,076,000 tons; on June 30 the amount was 2,043,000 tons and on Sept. 30 it was the best for the three quarterly periods at 2,095,000 tons. Abroad the amount of work in hand expanded steadily. On March 31 it was 2,280,000 tons. By June 30 the volume was 2,403,000 tons; and by Sept. 30 it had expanded to 2,513,000 tons. These totals excluded construction in Germany and Russia, particulars for which were not available, and the Japanese figures were known to be incomplete. The expansion of work abroad reflected the restarting of operations in yards damaged during World War II and a revival of construction.

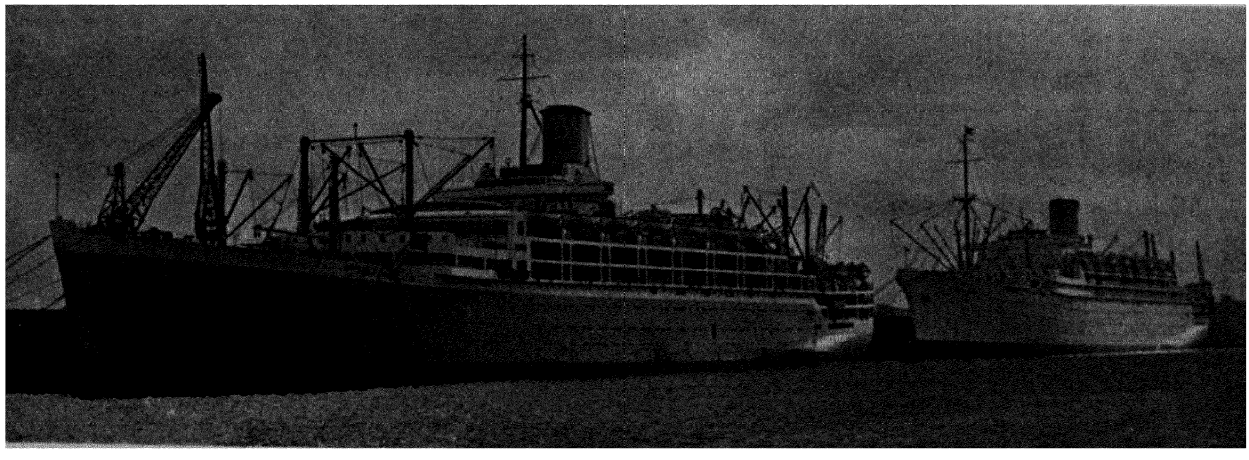
On March 31 the proportion of the total tonnage under construction throughout the world which was built in the United Kingdom was 47·7%, making the share of shipyards in other countries 52·3%. On June 30 the share of the United Kingdom was rather less at 46% and that of other countries correspondingly more at 54%. The United Kingdom's share again declined by the end of September—to 45·5%—and the share of yards in other countries rose to 54·5%. The total volume of work in United Kingdom yards after World War II included a substantial amount for owners abroad. At the end of March 1946, about 100,000 tons of such shipping was being built. By March 1949 it had risen to 742,000 tons. There was a small increase by June 30 to 757,000 tons and by Sept. 30, 1949, the amount had expanded to 766,000 tons. This represented 36·6% of the total tonnage under construction in Britain. The corresponding proportion on June 30 was 37%, and on March 31 it was 35·8%. Shipping under construction on Sept. 30 included 293,000 tons for Norway and 103,000 tons for Argentina.

Better supplies of materials were reflected in the United Kingdom in an increase in the work started, which was pronounced at the end of the third quarter. During the three months ended March 31 work was begun on 73 vessels of 274,000 tons. In the June quarter new work was represented by 64 ships of 288,000 tons, and in the three months ended Sept. 30 work was begun on 80 ships of 402,000 tons.

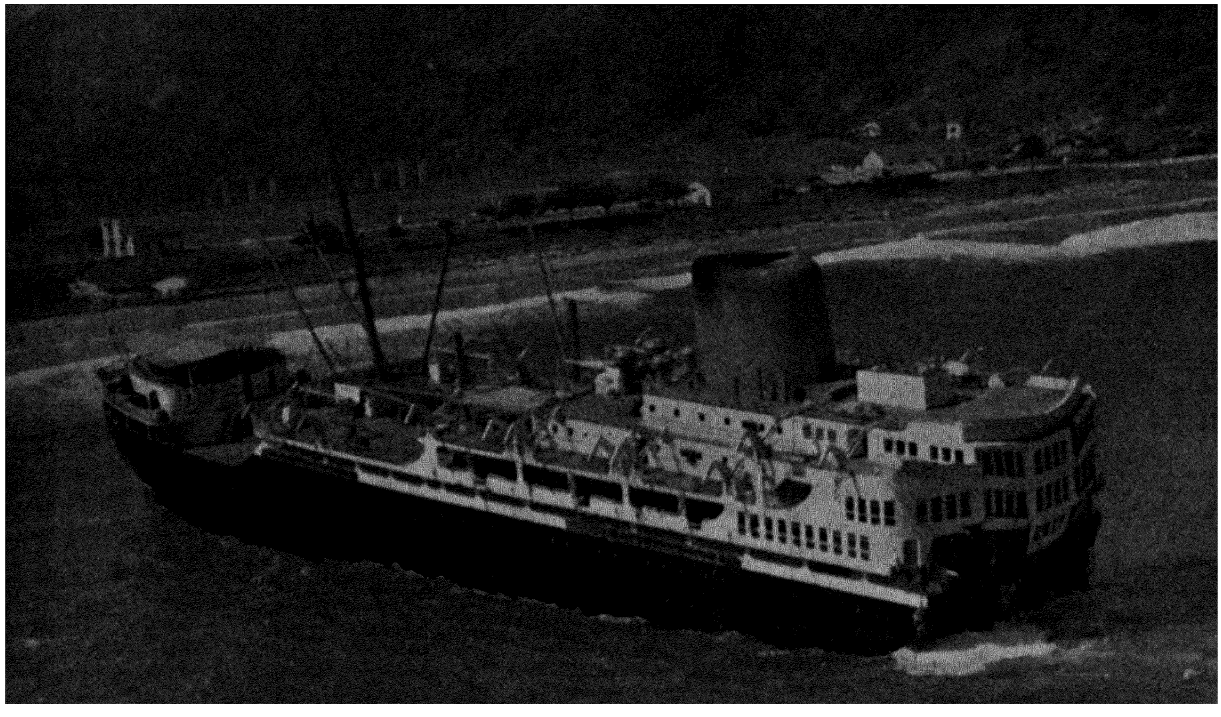
Abroad, work was started during the three months ended March 31 on 132 ships of 477,000 tons. During the June quarter the number of ships increased to 115 and the tonnage to 560,000 tons. In the September quarter the number of ships on which work was started was 130, but the tonnage was less at 519,000 tons.

For the first three quarters of 1949 250 ships, representing 990,000 tons, were completed in the United Kingdom. For the whole of 1949 shipping delivered was 1,213,000 tons. It was, therefore, clear that total output for 1949 would well exceed that for 1948. It was generally expected that the shipyards in the United Kingdom would be well employed throughout 1950 and that the work would extend well into 1951. Some large liners were due to be delivered in 1950 and because of the small number of contracts undertaken in 1949 later prospects for shipbuilding were uncertain. (C. MN.)

The world tonnage of merchant ships of 1,000 gross tons or more, as at June 30, 1949, was distributed as follows:



Two of the largest and fastest liners using the Port of London. Left, the "Orcades" (28,000 tons), which left on her maiden voyage on Dec. 14, 1948, and the "Himalaya" (28,000 tons) whose maiden voyage began on Oct. 6, 1949.



The stern half of the "Magdalena" (17,547 tons) which left London on its maiden voyage, March 9, 1949. On April 25 she ran aground off Tijuca islands near Rio de Janeiro and broke in two while being towed into harbour.

	No. of vessels	Gross tonnage		No. of vessels	Gross tonnage
United States*	3,514	25,997,200	Italy	355	2,142,300
British Empire	3,146	18,867,000	U.S.S.R.	430	1,324,100
Norway	865	4,416,100	Greece	223	1,255,700
Sweden	537	1,792,200	Denmark	299	1,033,300
Netherlands	481	2,683,200	Japan	290	1,144,000
France	475	2,620,500	Other countries	1,697	6,327,800
Panama	453	2,948,300			
			Total	12,765	72,531,700

* Excludes vessels on the Great Lakes

The total of 72,531,700 gross tons of vessels in the world fleet represented an increase of 1,947,200 gross tons since June 30, 1948, but, during the same period, the U.S. fleet decreased by 130 vessels totalling 712,300 tons.

The Shipbuilders Council of America reported, as at Oct. 1, 1949, 925 vessels, each of 1,000 gross tons or more, aggregating 7,081,259 gross tons, under construction, as follows:

	No. of vessels	Gross tonnage		No. of vessels	Gross tonnage
Great Britain	397	3,200,193	Norway	40	142,092
Sweden	149	1,078,010	Belgium	25	135,423
United States	53	900,453	Japan	17	133,340
France	72	443,169	Spain	26	128,569
Netherlands	59	428,133	Australia	9	52,820
Denmark	41	203,563	Canada	11	44,394
Italy	26	191,100			

United States. At the beginning of 1949, shipbuilding in the private shipyards of the United States consisted of 76 merchant vessels, aggregating 1,187,850 gross tons, and two dredgers, totalling 24,672 displacement tons. At the end of the year these private shipyards had under construction or on order 39 merchant vessels, aggregating 639,000 gross tons, and one dredger totalling 21,572 displacement tons.

During 1949 the private shipyards of the United States delivered 33 tank vessels, of 1,000 gross tons or more, aggregating 538,051 gross tons and one dredger of 3,100 displacement tons, as compared with 28 seagoing vessels, totalling 163,486 gross tons, and one dredger of 1,100 displacement tons, in 1948.

Contracts for only five seagoing merchant vessels were placed in private shipyards of the United States in 1949. Many of the smaller coastal and inland shipyards, however, had reasonable activity in the construction of barges, towboats and other small craft.

In Sept. 1949, employment in the ship-repairing branch of the industry in about 80 yards had dropped to 25,725 from 56,708 in Sept. 1948, a decrease of approximately 58%. This substantial reduction in employment resulted from the completion of the reconversion of merchant vessels from wartime requirements back to peacetime requirements, and to the decrease in the volume of shipping in operation under the U.S. flag. Employment in the shipbuilding branch of the industry, however, was just over 29,500 or 4,500 more than prevailed in the same month in 1948.

The average hourly earnings in the industry for shipbuilding and ship repairing in Sept. 1949 was $1·632. (*See* also SHIPPING, MERCHANT MARINE.) (H. G. S.)

SHIPPING, MERCHANT MARINE. By the end of 1949 many of the heavy war losses of the British and Allied nations, including Norway, were made good. Colin Anderson, chairman of the General Council of British Shipping, was able to say that the British merchant navy had recovered its prewar volume. Its balance had not, however, been regained; *i.e.*, the relationships between the different sections, mainly passenger and cargo liners, ordinary cargo ships or tramps and oil tankers had not been re-established.

Passenger liners continued to resume their regular services after reconditioning extending over a year or more, following war duties and the return of troops and the carriage of emigrants from Europe to the new countries, notably South Africa and Australia. Some large new liners were commissioned, which had taken much longer to build and had cost far more than had been anticipated, and they helped materially to reduce the long lists of prospective passengers

who had been wanting to travel. The new Orient liner "Orcades," of 28,000 tons and valued at £3,250,000, completed her maiden voyage from London to Australian ports early in the year. The Cunard White Star liner "Caronia," of over 34,000 tons and valued at more than £4 million, was commissioned in the trans-Atlantic route and then was directed to make a pleasure cruise from New York to the Caribbean sea, the vessel having been specially designed for cruising when not engaged in the North Atlantic service. The "Caronia" was the largest ship to have been built anywhere since the end of World War II.

In the spring the Royal Mail liner "Magdalena," of 17,500 tons and valued at £2·3 million, was commissioned but was wrecked near Rio de Janeiro on her maiden voyage in April. The "President Perón," the first of three new ships of about 14,000 tons gross each built in the United Kingdom for the Argentine government, left Southampton on July 20 on her maiden voyage to Buenos Aires. The cost of the vessel exceeded £1·5 million.

On August 25 the liner "Rangitoto," of 22,000 tons gross, owned by the New Zealand Shipping company, left London on her maiden voyage to Wellington, New Zealand. The passenger accommodation in this ship was distinguished by being of one class with a wide range of fares corresponding, broadly, to those charged for the first and tourist classes of ships already in the service. Only one set of public rooms was required. The cost of this liner was rather more than £2 million. A sister ship, the "Rangitane," was completed at the end of 1949.

The "Himalaya," of 28,000 tons gross, was commissioned by the Peninsular and Oriental Steam Navigation company in Sept. 1949 and sailed from Tilbury on her maiden voyage on Oct. 6, a year and a day after her launch. The ship was ordered in Jan. 1946 and the keel was laid on April 29 of that year. The "Himalaya" was thus about 3½ years under construction. The original estimate of the cost was £2,244,000 and the actual cost was about £3·5 million. The "Himalaya" was similar in size to the "Orcades." Each vessel was larger and faster than any liner previously built for either company. They were the outcome of a policy of fewer, but faster and larger, ships which was intended as a means of helping to offset the much higher building costs and operational expenses than those before 1939. The "Orion," a sister ship to the "Orcades," was being built in 1949; and the "Chusan," of 23,000 tons, was under construction for the P. and O. company.

The French liner "Ile de France," of 45,000 tons gross, returned to trans-Atlantic service in July 1949 after reconditioning at Saint-Nazaire which occupied more than two years. The internal rebuilding of the ship after strenuous war service cost between six and seven times the original price of the vessel in 1926.

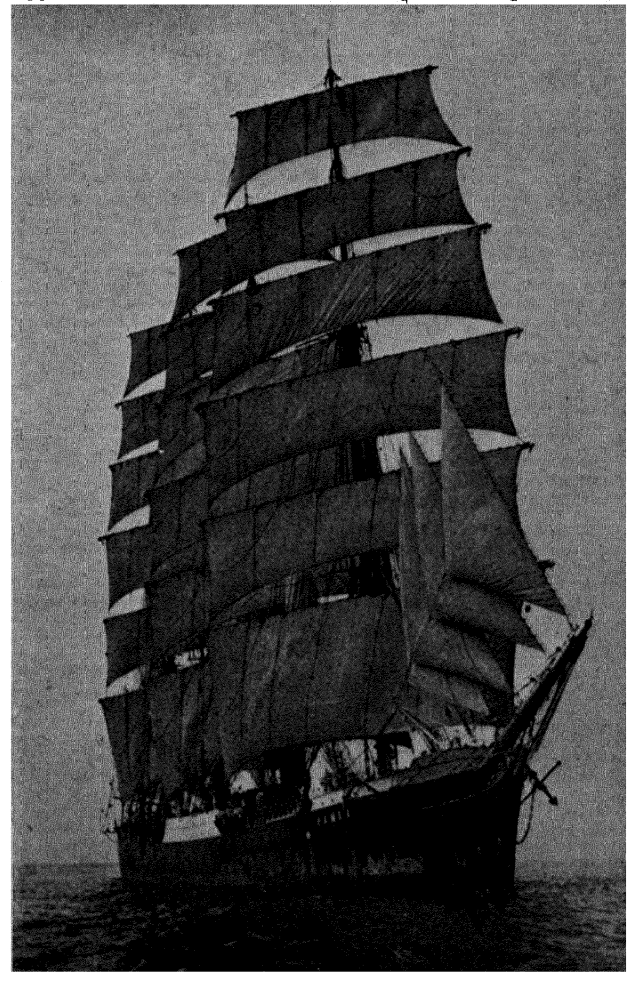
A great increase in shipbuilding costs caused managers much concern. Although insured values were generally raised when World War II broke out the payments for ships lost only went part of the way to meet the bills for new ships. The replacement of vessels made necessary by advancing age raised a more acute problem, since the amounts set aside annually for depreciation on much lower valued ships fell far short of the costs of the new vessels.

That British owners were confronted with difficulties in this matter was indicated in the action of the chancellor of the exchequer in increasing by the 1949 budget the so-called initial allowances in respect of taxation of new ships from 20 to 40%. This, however, only forestalled some of the annual allowances of 5% which had long been permitted for depreciation when calculating earnings for taxation. With the new concession the relief from taxation would cease at the end of 12 years, whereas otherwise the ordinary 5% would be allowed for depreciation extending over 20 years. British owners were adversely affected by a liability for balancing charges under legislation in 1945. This meant that when a ship was lost or disposed of tax was imposed on the difference between the proceeds from the loss, or sale, and the written down value of the ship.

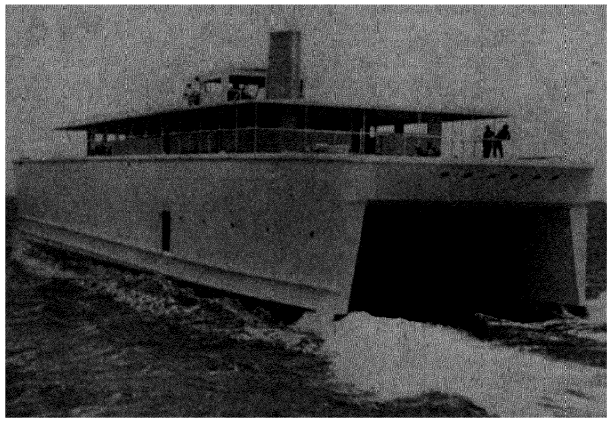
British shipping companies did not enjoy the same taxation relief as was granted to shipping in some countries. In Denmark taxation provisions extended to industry generally under which, in addition to normal depreciation allowances, the excess of current building prices over those of 1939 might be written off subject to a maximum of 50% in any one year. Similar taxation reliefs were available in Norway and profits derived from the sales of ships were tax free if eventually used for the purchase of new tonnage. In Sweden sums written off assets were free from taxation.

The task of shipping managements in making vessels built at higher costs pay was much increased by slower working in ports. As an example, the ships in a large British fleet on the average formerly spent 28 days in port compared with four weeks at sea, but in 1949 spent 36 days in port.

Shipping was particularly liable to be affected by decisions of governments which greatly influenced the course of trade. There was much waste of costly refrigerated space in South American liners during the first five months of 1949 because supplies of meat were not forthcoming from Argentina as



The "Pamir" (2,796 tons) arriving at Falmouth, Cornwall, on Sept. 30, 1949, after making her last voyage from Australia as a grain ship.



Designed by Gar Wood this double-hulled motor vessel, which it is claimed does not roll, was first publicly demonstrated in Aug. 1949.

had been expected. Restrictions on imports to South Africa early in the year, and more drastic curtailments as from mid-summer, meant a rush to ship cargo in periods immediately preceding the relevant dates and, subsequently, a great falling-off in shipments, particularly after the middle of June.

Several countries expressed intentions or wishes to develop mercantile marines. India contemplated a mercantile marine of 2 million tons gross within the next five or seven years; but a keen protagonist for a large Indian merchant navy had seen difficulties in the way of securing the construction of the ships, of paying for them at the current prices and of obtaining sufficient trade for them when built. The Italian government announced its intention of having a merchant navy by 1952 on almost the 1941 level of tonnage and, of course, a much more up-to-date one. Japanese shipping re-appeared in local services and Poland expressed a desire for a substantial mercantile marine. The occupying powers sanctioned the construction of a number of cargo ships and tankers in Western Germany not exceeding 7,200 tons gross and a speed of 12 knots. By a later agreement Germany was permitted also to build six special ships which might be refrigerated vessels, fruit carriers or oil tankers. (C. MN.)

United States. On Sept. 30, 1949, there were 1,214 ocean-going merchant vessels of 1,000 gross tons and over, totalling 14,350,000 dead-weight tons, in active service in the United States merchant marine. This was about 200 less than the number active on Dec. 31, 1948. Of the active vessels, 1,032 were privately owned and 182 government-owned. There were in addition 196 vessels temporarily out of commission and 1,974 (including some special types) laid up in reserve.

The number of privately owned vessels (active and inactive) had increased by 13 over the number on Dec. 31, 1948. The active privately owned United States merchant marine of 12,452,000 dead-weight tons on Sept. 30, 1949, was only 3,794,000 dead-weight tons larger than the prewar privately owned fleet in service on June 30, 1938. The ships of the 1949 fleet, however, were larger, faster and relatively newer.

The number of vessels owned by the government in active service decreased by about 150 from Dec. 31, 1948, to Sept. 30, 1949, while the number laid up in reserve increased by about 130 during the same period. The decrease in the number of government-owned ships in service was expected to continue until the expiration of the Maritime commission's authority to charter vessels on June 30, 1950. After that date there would probably be no active government-owned vessels, with the possible exception of a few operating in specialized trades.

Ships flying the U.S. flag carried 46·3% of the total U.S. export and import trade in the first six months of 1949, in contrast to 67·5% in the corresponding period of 1948. Decrease in cargoes shipped under Economic Co-operation administration authorization (50% of which had by law to be carried in U.S. ships), together with increasing competition from merchant marines of other nations whose operating costs were relatively lower, forced the withdrawal of many U.S. flag ships from operation. Vessels in tramp trades, which were not subsidized, were especially vulnerable to foreign competition, and many of these vessels which had been chartered from the government were withdrawn from service. (*See* also SHIPBUILDING.) (P. B. F.)

SHOE INDUSTRY. The demand for footwear in Great Britain throughout 1949 was good. All factories with a few temporary exceptions due to shortages of certain kinds of leather, were fully employed. Rates in the retail shops kept pace with production, except for a slight tendency among retailers to rebuild their stocks to more adequate proportions. In most classes of shoes a buyers' market prevailed, certain specialized lines being the exceptions.

Wholesalers' and retailers' profit margins, however, suffered two serious reductions: early in the year severe cuts were made by the Board of Trade in the profits allowed on both utility and non-utility footwear, which accounted respectively for about 95% and 5% of total production. Wholesalers' margins, which had been 14·29% of cost were left unchanged for women's shoes, but for all other lines were reduced to 12·68%.

Retailers' margins on non-utility footwear had been 50% or 42·86% of cost exclusive of purchase tax. A scale of purchase prices paid by the retailer determined which rate applied. No change was made in the permitted percentages, but the level at which the higher profit could be charged was raised—in the men's from 30*s.* to 46*s.* 6*d.*, in the women's from 25*s.* to 41*s.* 6*d.* and similarly for children's. This materially lowered retail profits on non-utility lines.

On grade 1 utility footwear the mark-up had been 42·68% of cost and on other grades 37·94%. Margins on women's shoes were not changed except on grade 3 which was reduced to 35·59% but for other footwear they were lowered to 37·94% on grade 1, 35·59% on grade 2 and 33⅓% for grade 3. Lines having no grade number were given the profit-rate applicable to grade 2. These cuts, applied to 95% of all shoes manufactured, made serious inroads into retailers' gross earnings.

Later in the year they suffered further reductions as a result of the government's decision to force a reduction of 5% in the retail prices of certain essential commodities. Manufacturers' maximum prices were reduced by 1% on sales to wholesalers and by 2% on sales to retailers. Wholesalers' margins came down from 12½% and 11¼% to 12% and 11% respectively and retailers' margins by 2½% on returns. These cuts were vigorously opposed by the industry, but without success. There was no appreciable increase in the volume of footwear sold after the cuts had been made, the price difference to the public being too small to influence demand. Manufacturers had already been selling many of their utility shoes below the permitted ceiling prices.

The devaluation of the pound opened up a chance for the industry to compete in dollar markets. The end of the year saw several important companies perfecting plans to sell British shoes in the United States and Canada, some through shops under their own control. (C. A. SD.)

United States. The shoe industry, in 1949, was faced with the issue of price adjustments at a level where the consuming public would be willing to buy. Shoe production, in general, was maintained at almost the same level as in 1948. Casual shoes became an accepted factor in women's shoes by virtue of their comfort and moderate price. These casuals tended

to keep women's shoe production figures steady; of the estimated 201 million pairs of women's shoes, 65·5 million were casuals. Men's shoe production remained stable, at an estimated 98,900,000 for 1949 as compared with 104,730,000 pairs in 1948. Juvenile shoe production decreased from the record of 111,194,000 in 1948 to an estimated 104,500,000 for 1949.

Shoe manufacturers, faced with the high cost of materials and labour, tried to minimize risk and avoid long term commitments; in some cases they used substitute soles in an effort to hold down costs, without sacrificing wear.

The average consumption of shoes per head had remained at about 3·10 pairs per person despite retailers' efforts to increase the number. But consumers wanted the same or even a higher grade shoe at a better price. (*See* also LEATHER.)

(E. G. AN.)

SHOPS AND DEPARTMENT STORES. The year 1949 marked a further stage in the laborious return to more competitive conditions in the retail market in Great Britain. Price and rationing controls were, even in food, relaxed gradually. The campaign for the abolition of clothes rationing initiated by the Drapers' Chamber of Trade near the end of 1948 achieved its objective in 1949, but not until the spring, when, with the exception of a small number of lines, rationing by coupon had been replaced by rationing by income. There were markedly different rates of progress in the production of consumer goods for the home market during the year, but more commodities reached their prewar output. Woollen goods, rayon, footwear and other commodities made good progress, in contrast to food and cotton goods.

A continuing high proportion of the output of raw materials was devoted to the production of the "utility" lines at the expense of the higher priced, less standardized, "non-utility" goods which still bore purchase tax.

The decreasing buoyancy of purchasing power and rising retail costs and prices restricted the upward movement in sales volume, but money sales rose markedly. Nevertheless, operating costs rose faster than sales revenue. Margins on utility lines were reduced by the Board of Trade as a political expedient to limit the rise in prices. Rising wholesale and retail stocks and the financial results of some retail organizations reflected increasingly difficult trading conditions in some lines, *e.g.*, furs, wireless, electrical appliances and semi-luxury household goods, books and stationery, cosmetics, beer; but many firms, including those catering for the lower income groups, maintained or increased turnover and earnings.

The end of sellers' markets in most lines increased the bargaining power of retailers *vis-à-vis* manufacturers and wholesalers. Retailers were increasingly unwilling to buy for stock as and when goods were available and suppliers began to complain that retailers were returning to the prewar practice, or malpractice, of buying "from hand to mouth," an inevitable development in a buyers' market.

Retailers responded to sluggish sales by introducing hire purchase, deferred payments and other credit arrangements and by increased attention to advertising and other forms of publicity.

Despite the need for manpower in Great Britain to be diverted into the manufacturing industries working for the export trades, labour in distribution rose during the year by about 40,000. The government actively encouraged the development of the new labour-saving retail technique of "self-service" by making 100 licences for internal reconstruction available to retail stores, 40 to multiple shops, 40 to Co-operative societies and 20 to independent retailers.

In June, a committee established by the Board of Trade to investigate the practice of resale price maintenance made two important recommendations in its report: first, that although an individual producer should be free to prescribe and enforce resale prices for goods bearing his brand, his power should not be used (a) to obstruct the development of particular methods of trading, (b) to impede the distribution of competing goods, (c) to deprive the public of improvements in distribution; second, that the use of sanctions to enforce collective price maintenance arrangements should be made illegal. The president of the Board of Trade announced that he would require the retail trade associations to abandon or modify some of the practices involved; but by the end of the year little concrete action had been taken in a reform that would have a profound effect on the structure of British retail distribution. The census of distribution proposed for 1950 was postponed till 1951.

In the second half of 1949, a development that might have far reaching effect on retailers of all kinds was the Co-operative Wholesale society's press and poster advertising campaign designed to increase its membership among the middle classes. The movement had a nominal membership of 10 million consumers but less than half bought exclusively from the Co-operative stores, which sold 15% of the national food supply and a smaller proportion of other commodities. The C.W.S. considered that little more headway could be made among the working classes, some of whom were attracted by the lower prices of multiple shops.

Towards the end of the year official retail wage rates were raised about 6% by the new statutory Wages councils.

The devaluation of sterling, in September, had not, by the end of the year, had a marked effect on the retail prices of consumer goods fabricated from imported raw materials, despite a substantial rise in import prices. (A. SDN.)

SHOWS: *see* FAIRS, SHOWS AND EXHIBITIONS.

SIAM: *see* THAILAND.

SIERRA LEONE: *see* BRITISH WEST AFRICA.

SILK. The devaluation of the pound and other currencies in Sept. 1949 did not substantially affect shipments of raw silk to two silk consuming countries, France and Great Britain. Shipments from Japan for the first ten months of 1949 averaged 3,181 bales a month, compared with a monthly average of 6,407 during 1948. France bought 5,432 bales during October.

Statistics prepared by the Textile Foreign Trade corporation of Japan, showed that France in 1949 would have bought more raw silk than the United States, despite the unfavourable exchange rates in both Britain and France.

In November, West Germany completed a trade agreement with Japan for the purchase of $1 8 million worth of raw silk and silk fabrics.

Some progress in international co-operation in the furtherance of the use of silk was made during 1949. In March, a representative of the International Silk bureau (later in the year renamed the International Silk association) from Lyons, France, visited Japan for the purpose of asking financial support from Japanese raw silk producers, through U.S. occupation officials, for the promotion of silk throughout the world. A levy of five cents per pound was suggested. The occupation officials, however, as well as Japanese raw silk producers, opposed the suggestion on the grounds that the Japanese economy made collection of such a levy impossible, and that it would have the same effect as raising the price of raw silk, which would counteract against increased use of silk.

Late in May, at Zürich, Switzerland, 16 countries, including Japan, were represented at the organization meeting of the International Silk association, and plans were made for

holding the second International Silk congress in New York in Oct. 1950. Representatives attended from Austria, Belgium, Egypt, France, Germany, Great Britain, Hungary, Italy, Japan, the Netherlands, Persia, Spain, Switzerland, Syria, Turkey and the United States.

The hopes of increased silk consumption in the U.S. in 1949, based on the great increase, did not materialize. Prices of raw silk were stabilized and there was apparently little incentive for purchasing, as shown by the small demand for silk fabrics. However, in June, the U.S. occupation authorities in Japan announced that raw silk transactions would be restored to private trading on and after Jan. 1, 1950. In the expectation that silk prices would advance after that date, exports of raw silk from Japan gained momentum in the last four months of 1949. The total for the year was 36,551 bales, compared with 59,397 bales in 1948. However, much of this came from stocks already in New York. Actual imports from Japan fell sharply to 29,690 bales, compared with 71,239 bales in 1948.

In the domestic production of silk fabrics, U.S. mills decreased their yardage in about the same proportion as they did with respect to rayons, most of which were made in the same or similar mills. The total production was estimated to be 17 million linear yd., compared with 19 million yd. in 1948 and 69 million yd. in 1939. Meanwhile, the smaller mills manufacturing silk fabrics in the U.S. were protesting bitterly over competition with Japanese fabrics, and it was announced by the Tariff commission, at the close of the year, that a preliminary investigation would be undertaken to determine whether there was justification for an increased rate of duty on silk fabrics to protect the domestic industry.

Of a total of 31·3 million yd. of all-silk fabrics imported by the U.S. in 1949 from January to November, 29 4 million yd. came from Japan. The average price per yd. was 54 cents from all countries, and 52 cents from Japan. These were all finished fabrics, ready for manufacture into garments or accessories. (*See* also RAYON AND OTHER SYNTHETIC FIBRES; TEXTILE INDUSTRY.) (I. L. Bb.)

SILVER. World silver production was gradually working back toward the prewar level. Outputs of the more important producing countries, and the estimated world totals during the past several years are shown in Table I.

TABLE I.—WORLD SILVER PRODUCTION, 1944-48
(In millions of fine ounces, smelter output)

	1944	1945	1946	1947	1948
United States	36 65	29 05	21 10	38 58	39 23
Canada	13 63	12 94	12·54	12 50	14 57
Newfoundland	1·16	1·08	1·11	0 96	0 88
Mexico	65·46	61 10	43 26	58·84	57·52
Honduras	3·12	3 00	2 68	2 41	3 17
Argentina	2·00	1 70	?	2 44	1·20
Bolivia	6·80	6 68	6·11	6 23	7 56
Chile	1 09	1 03	0·87	0 98	0 99
Peru	15 83	13·00	12·33	11 39	10 42
Belgian Congo	2·61	4·14	5·05	4 06	3·81
South Africa	1·21	1 24	1 20	1 15	1 17
Australia	9 37	8 08	9 05	9 53	10 06
Total	181	157	132	166	171

The countries listed account for about 85% of the total although there are a large number of minor producers, the U.S.S.R. being the most important of these.

United States. The salient features of the silver industry in the United States are shown in Table II, as reported by the U.S. Bureau of Mines.

The improvement in output that was manifested in 1948 was not sustained in 1949, as the total mine output for the first three quarters of 1949 was only 26,829,754 oz.

Canada. Mine output of silver rose from 12,504,018 oz. in 1947 to 14,569,280 oz. in 1948, and to 11,116,642 oz. in Aug. 1949, as against 10,780,518 oz. in the same period of 1948.

TABLE II.—SILVER INDUSTRY IN THE UNITED STATES, 1944-48
(In thousands of fine ounces or of dollars)

	1944	1945	1946	1947	1948
Mine production	34,474	29,024	22,914	35,824	38,096
Imports	$23,373	$27,278	$57,578	$68,140	$70,884
Exports	$126,915	$90,937	$36,455	$30,649	$12,400
Industrial use	176,289	184,661	123,647	126,366	129,186
Secondary recovery	56,189	58,361	36,647	27,866	23,897
Net consumption	120,100	126,300	87,000	98,500	105,289

(*See* also MINERAL AND METAL PRODUCTION AND PRICES.)
(G. A. Ro.)

SINGAPORE: *see* MALAYA (FEDERATION OF) AND SINGAPORE.

SIRRY PASHA, HUSSEIN, Egyptian statesman (b. Cairo, Dec. 21, 1892). Educated in Cairo and Paris, from 1916-24 he was associated with the Egyptian Irrigation service. In 1924 he was appointed secretary general of the ministry of public works; from 1925-27 he was assistant under secretary of state and from 1929-37 under secretary of state at the same ministry. In 1937 he became minister of public works, in 1939 minister of national defence and later in the same year minister of finance. From Nov. 15, 1940, to Feb. 2, 1942, he was prime minister, maintaining a policy of non-belligerency. From 1938 he was an Independent member of the Egyptian Senate. On July 26, 1949, he formed an all-party "caretaker" coalition cabinet the main mission of which was to carry out the forthcoming elections in a spirit "of peace, justice and equity." He resigned on Nov. 3 and on the same day formed another government composed of non-party men, keeping for himself the portfolio of foreign affairs (*see* EGYPT)

SISAL: *see* HEMP.

SKATING: *see* ICE SKATING.

SKIING. In spite of lack of snow which restricted skiing in 1949, international fixtures attracted large entries, the most important event being the Arlberg-Kandahar, held on March 12-13 at St. Anton-am-Arlberg for the first time since the race was cancelled in 1938. It was a great reunion of racers, and both founders, Arnold Lunn and Hannes Schneider, saw the Italian Zeno Colo beat 108 first-class international competitors, and the Frenchwoman Jacqueline Martel win the ladies' event.

The Lowlander championship was organized by the Dutch at Arosa, the Belgian team winning the men's events and the British the ladies'. Sheena Mackintosh set up a record by beating all competitors, men and women, in the slalom.

The four ski clubs (Kandahar, Swiss university, Ladies' and Swiss Ladies') who developed downhill ski-racing, held their Silver Jubilee meeting at Murren on Jan. 29-30.

In Scandinavia, the special jumping at Holmenkollen was won by the Norwegian Torbjoern Falkanger, the special Langlauf by the Swede Nils Oestednsson and the 18 km. combined by the Norwegian Ottar Gjerdmundshaug.
(R. U. C.)

United States. Members of a French national team took nearly all the North American championships held in 1949 at Aspen, Colorado. After Jean Pazzi had won the downhill race, Georges Panisset won the slalom to defeat Pazzi for the combined title.

Mrs. Rhoda Wurtele Eaves of Montreal won the women's downhill race; Mrs. L. C. Schmitt, the only feminine member of the French team, won the slalom.

At the national jumping at Salt Lake City, Utah, Petter Hugsted, 1948 Olympic champion from Norway, won the class A title with leaps of 262 and 263 ft.

At the national downhill-slalom contests at Big Mountain, Montana, George Macomber of West Newtown, Massachusetts, won the slalom and second place in the downhill

contest. The U.S. open downhill championship went to Yves Latreille, a Canadian representing the Sun Valley (Idaho) Ski club. (T. V. H.)

SKIN DISEASES: *see* DERMATOLOGY.

SMUTS, JAN CHRISTIAAN, South African statesman (b. near Riebeck West, Malmesbury district, Cape Colony, May 24, 1870), was defeated in the 1948 general elections. (For his career see *Encyclopædia Britannica* and *Britannica Book of the Year 1949*).

In 1949 the United party continued to oppose the nationalist government of D. F. Malan (*q.v.*) and on Jan. 25 General Smuts moved a motion of no confidence in the government on the ground of its intention to abrogate non-European franchise rights. He was in Britain in June when he undertook duties as chancellor of Cambridge university. Recipients of honorary degrees which he presented included two women —Professor Lillian Penson and Dame Myra Hess. He also unveiled a memorial panel to old scholars of Perse school, Cambridge, who fell in World War II. He later visited Rome and also Athens where he was the guest of King Paul and Queen Frederika. In October the Nationalist government removed General Smuts from the post of commander in chief of the Union's defence forces which he had held from 1940. On Nov. 22 he spoke at a dinner in London to launch a scheme for planting a forest in Israel to commemorate the 75th birthday of Chaim Weizmann (*q.v.*).

SNOOKER: *see* BILLIARDS AND SNOOKER.

SOAP, PERFUMERY AND COSMETICS. The year 1949 witnessed a remarkable increase in the world output of synthetic detergents of the soap substitute types which, unlike soap, were not made from vegetable and animal fats but were mainly derived from petroleum and other non-edible sources. They had the advantage that they could be adapted to meet specific cleansing requirements and, although they were originally expensive to produce, it was estimated that production costs in 1949 were lowered sufficiently to enable some of them to compete on equal terms with soaps.

In Great Britain official control of the industries covered by this heading continued to be relaxed. The Toilet Preparations (Revocation) order of July 1948 removing control from the manufacture and supply of perfumery and toilet preparations was followed in Nov. 1949 by the removal of control from soap substitutes packed for retail sale, thus revoking the Soap Substitutes Labelling and Prices order of 1943. The domestic soap ration in Great Britain was also increased by one-seventh in Nov. 1949 because of improved supplies of inedible oils and fats from the colonies and sterling area.

Responsible elements in the British cosmetic industry were well aware at the outset of 1950 that the industry's future would largely depend upon ability to win dollars in overseas markets. The fact that India, Australia and other countries were increasingly able to look after their own requirements and that South Africa had banned imports added to the trade's export difficulties. Several British firms sent export emissaries abroad to make first-hand investigations and others were greatly assisted in their day-to-day problems by their trade associations, the British Export Trade Research organization and similar bodies. The absorption of smaller firms by larger and more highly organized concerns was a noticeable feature of these industries in Great Britain during 1949.

Technically, the most notable advances comprised the development of more efficient soap processes of the continuous and link-batched types, the opening of new synthetic detergent plants and the continued modernization of cosmetic research. The first scientific meeting of the Society of Cosmetic Chemists of Great Britain was held in London in Nov. 1949. (F. V. W.)

United States. Throughout 1949 sales of perfumery and cosmetics in the U.S. were about equal to those of 1948. Some items—notably hair preparations—sold more briskly than in 1948, while others, such as perfumes, did not.

The industry continued to wait for its trade practice rules from the Federal Trade commission, and it was expected that these might be issued in time to become effective by the middle of 1950.

As a result of a meeting of some of the principal perfumers in 1948, Fragrance Foundation, Inc, an organization formed to publicize the products of its members and to conduct a publicity campaign among retail sales personnel, came into being in 1949.

There was a marked lack of new products and new presentations of existing products in 1949. The industry appeared to suffer from a deficiency of inventiveness, creative imagination and initiative, rather than to be governed by considerations of financial caution.

At the close of 1949 information on sales volume in the soap industry was available for the first three quarters of the year only. The industry's trade association reported increases in sales of solid soap, liquid soap and synthetic detergents. But these increases were largely the result of a considerable growth in the number of manufacturers and a comparison of the total dollar volume for companies which reported in both years showed a decrease of about 22% in sales of solid and liquid soaps during the first nine months of 1949. (H. T.)

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SOCIALIST MOVEMENT. In 1949 the pendulum swung against most of the world's Socialist parties. But the parties in power in Europe maintained and even strengthened their position. The British Labour party maintained its unprecedented record of by-election successes. The Norwegian party for the first time won a safe absolute majority in the general election of Oct. 10 while the Danish party unsuccessfully sought the dissolution of parliament in expectation of similar gains. The Finnish party, although forming a minority government, showed such strength in countering Communist industrial sabotage that the right-wing opposition showed no disposition to endanger its survival.

In countries where the Socialists formed coalitions with Christian Democrats or right-wing parties their mass support tended to dwindle and their willingness to continue in office was strained. Following losses in the general election of June 26, the Belgian Socialists decided to go into opposition, using the Social Christians' support for the restoration of King Leopold as an excuse. The French Socialist party brought down the Henri Queuille government on Oct. 6, but reluctantly returned to office under Georges Bidault several weeks later. In Italy Giuseppe Saragat split his party, the P.S.L.I. (Partito Socialista dei Lavoratori Italiani), by a stubborn determination to support the De Gasperi government at all costs, though for tactical reasons he twice offered his ministerial resignation to the prime minister. In the Austrian general election of Oct. 9 the Socialists failed to strengthen their position relative to the Volkspartei, their senior partners in office, although a new fourth party drew off from the Volkspartei a considerable number of ex-nazis. The federal elections in Western Germany gave the Christian

Democrats a short lead over the Social Democrats, who obtained a little over a quarter of the total vote.

In the Commonwealth the Canadian Co-operative Commonwealth federation lost almost two-thirds of its seats, while in both Australia and New Zealand, Labour party governments were decisively defeated.

In the first Israeli general election in January the moderate Socialists, Mapai (Mifleget Poalei Eretz Israel or Workers' party of Israel), came out well ahead with nearly 36% of the total vote, while its left-wing rival, Mapam (Mifleget Poalei Menoukhedet or United Workers' party), obtained 18%. In Japan the Social Democrats were heavily defeated in the January elections, losing almost two-thirds of their seats. In India the Socialist party emerged as the main constitutional opposition to the congress government. In Burma and Indonesia politicians of Socialist principles held office through dangerous periods of transition.

Though a few parties, notably the French, still hankered after a formal Socialist International, there was overwhelming agreement that the parties should pursue their co-operation as before through periodic meetings of the International Socialist conference and its committee (Comisco) The conference does not claim mandatory powers, and avoids voting on political issues where opinion is known to be divided. It acts rather as a forum for the exchange of ideas and claims the right of direct intervention only as the arbiter in disputes between Socialist groups or as the judge of claims to representation in its meetings.

During 1949 the conference made several interventions of this type. In January a mission consisting of the Belgian, Victor Larock, and the British, Denis Healey, visited Athens to investigate the situation of the Socialist groups in Greece. It found that only one of these—the E.L.D. (Enosis Laikis Dimokratias or Union of Popular Democrats)—could by its principles and organization justify a claim to membership of the conference. The so-called Social Democratic party led by Gheorghios Papandreou belonged to the right-centre, while the other groups such as the Archeo-Marxist party and the A.S.O. (Anexartiti Sosialistiki Organosis or Independent Socialist union) lacked any considerable organization outside Athens. After the conference's mission left, E.L.D. publicly denounced the Greek Communist party for its part in the civil war, while two moderate leaders, G. Stratis and N. Askoutsis joined the left-wing Alexandros Svolos and Elias Tsirimokos at the executive committee of the party.

The International Socialist conference continued its attempts to promote unity among the Italian Socialists. In 1948 it had suspended from membership the P.S.I. (Partito Socialista Italiano), led by Pietro Nenni, and admitted jointly the P.S.L.I. led by Saragat, and the Socialists' union, led by Ignazio Silone, on the understanding that the last two were to unite in a single party. The P.S.I. was finally expelled from the conference in May 1949 when Nenni regained complete control at its Florence congress. Meanwhile, the democratic Socialist groups were drawing further apart, dividing on such questions as participation in the A. De Gasperi government, Italy's adherence to the North Atlantic treaty and secession from the Communist-dominated trade union centre, C.G.I.L. Saragat supported all three of these policies, whereas they were opposed not only by the Socialists' union but also by the centre and left of his own party. Thus he just failed to obtain a majority for his position at the January congress of the P.S.L.I. in Milan. When however, in defiance of this congress decision, he later committed his party to all three policies by a series of *faits accomplis*, many of his opponents left the P.S.L.I., leaving him with an easy majority at the further P.S.L.I. congress at Rome in June. Meanwhile a further group of Socialists led by Giuseppe Romita left the P.S.I. after Nenni's victory in Florence. Under arbitration by the International Socialist conference this group, the so-called "Autonomists," joined the Socialists' union and the P.S.L.I. in setting up a Unification committee to organize a congress in Florence from Dec. 4-8, at which all three groups were to form a single party, the P.S.U. On Oct. 31, fearing that his opponents would have a majority in the Unification congress, Saragat withdrew the P.S.L.I. both from the unification negotiations and from the government and announced that he would hold an extraordinary congress of the P.S.L.I. at Naples in Jan. 1950. This unilateral rupture caused a revolt of the centre and left groups inside the P.S.L.I., which attended the Florence congress in December and formed a new party, the P.S.U. (Partito Socialista Unitario), together with the Socialists' union and the " Autonomists." Comisco admitted the P.S.U. to membership of the International Socialist conference on Dec. 11 and warned the P.S.L.I. that it might be expelled if it did not choose to form a single party with the P S.U. These interventions of Comisco were strongly criticized by the right wing press in Italy. In particular, the British Labour party was accused of abusing its position in the International Socialist conference to forward the alleged interests of British foreign policy. At the same time Comisco was fiercely attacked by the Cominform as attempting to split the unity of the working class

The third intervention of the International Socialist conference was directed at uniting the various Socialist exiles from eastern Europe. These were divided into two main groups—the Bureau International Socialiste with its headquarters in Paris, consisting of Polish, Yugoslav, Rumanian, Bulgarian and Hungarian Socialists that had made no attempt to compromise with the Communists in their countries after 1945 and a group mainly located in London consisting of Czech and Hungarian Socialists that had left eastern Europe only after their attempts to work with the Communists had ended in the liquidation of their parties. Under arbitration by the International Socialist conference these two groups held a joint congress in London in July at which they agreed to establish a single union, through adherence to which they would become associate members of the International Socialist conference. This union contained not only the Socialist parties of Poland, Czechoslovakia, Hungary, Bulgaria and Yugoslavia, but also the Socialist parties of the Baltic states and the Ukraine. But only the first five parties were admitted to the conference. In addition to general mediation, the International Socialist conference attempted unsuccessfully to reconcile opposing Socialist groups from Hungary led by A. Ban and K. Peyer, and Rumania led by E. Gherman, S. Voinea and Iancu Zissu.

Besides E.L.D. the P.S.U., and the exiles, two new parties were admitted to the conference during the year—the Social Democratic party of the Saar and the Social Democratic party of Japan. The former was admitted as an observer only, on the understanding that its admission should not be held to prejudice in any way the future political status of the Saar (*q.v.*), as might be defined in the peace treaty with Germany. The Japanese Social Democratic party was the first Socialist party from southeast Asia to join the conference as a full member, though observers from the Indian Socialist party had attended previous meetings. Contact between European Socialist parties and the parties of southeast Asia and Latin America remained fragmentary except for the exchange of publications. An attempt by the Indian Socialists to establish a regional Socialist group in southeast Asia was similarly defeated by the obstacles of distance.

The main field of current policy discussed by the International Socialist conference was the movement for European unity. The full meeting of the conference at Baarn, Holland, from May 14 to 16 held a fruitful discussion in which the functional approach was supported by the British, Belgian

and Scandinavian delegates and the institutional approach by the French and Dutch delegates. The desirability of reconciling these approaches was generally agreed but attempts to do so at the Council of Europe in Strasbourg were not conspicuously successful. A public division appeared between the pragmatic Socialist parties enjoying power in Great Britain and Scandinavia and the more juridically minded Socialists of France, Italy and Belgium, all seeking in European union some escape from their impotent imprisonment in right wing coalitions.

This and previous failures to arrive at a common policy on current problems helped to bring about a shift in the function of the International Socialist conference. All parties agreed that, rather than attempt artificial reconciliation of fundamentally different national views, they should concentrate on exchanging their experiences in the technical problems of Socialist administration, and on free discussion between individual Socialist experts unhampered by a party directive. The aim of such exchanges should not be the promulgation of a mandatory doctrine but rather a general broadening of perspectives in all parties. In fact, in this phase of its work, the International Socialist conference should aim at much the same function as the Fabian society had fulfilled inside the British Labour movement.

The first of such meetings had been held in Dec. 1948 in Great Britain on the administration of nationalized industries. Further meetings were held at Bennekom, Holland, from March 14-18, 1949, on the international control of basic industry, and at Örenas, Sweden, from Sept. 11-16, on the problems of industrial democracy.

On Dec. 21 the sub-committee of Comisco published a lengthy reply to the resolution passed by the November meeting of the Cominform somewhere in Hungary (*see* COMMUNIST MOVEMENT). This reply quoted Communist spokesmen to prove that the Cominform was an agency of the Soviet state, and rejected the Cominform claim to represent peace, freedom and Socialism. The statement was the first public response of the International Socialist conference as such to Communist attacks on it, and might mark the emergence of the International Socialist conference as an active participant in the "cold war." (*See* also ELECTIONS; POLITICAL PARTIES, BRITISH.) (D. W. H.)

SOCIAL SECURITY, U.S. The year 1949 was marked by a record outlay on social insurance benefits and for public assistance. Some of the increase was due to the growth in population and number of persons working and to a rise in unemployment. Part reflected larger expenditure of federal funds for assistance programmes and part represented the normal growth in insurance programmes, especially federal old-age and survivors insurance. The year also registered progress in health and welfare programmes providing services rather than individual payments. Services for mothers and children were extended to new areas, and new programmes for children with special needs were initiated.

Amendments to the Social Security act that became effective in the latter part of 1948 partly accounted for increases that occurred during 1949 in assistance payments, as well as in the number of persons aided under the programmes for the needy, aged and for dependent children. Most states increased payments, although frequently the additional amount was not sufficient to close the gap between payments and living costs. For the country as a whole, the average monthly payment towards old-age assistance and aid to the blind was $5 higher in June 1949 than in the previous June and the average for each child receiving aid to dependent children was about $3 higher.

Two of the programmes under the Social Security act were designed to compensate for some of the loss of income which resulted when a wage earner reached retirement age or died (old age and survivors insurance) or became unemployed through no fault of his own (unemployment insurance).

Federal old age and survivors insurance covered, in general, workers in industry and commerce. It was financed through contributions of the wage earner and his employer, based on the worker's wages from covered employment. The benefits were also gauged in accordance with his average taxable earnings. In Nov. 1949, monthly benefits totalling $55,319,000 were paid to more than 2,710,000 persons.

Similar payments were made during the month under other insurance or related programmes. Monthly retirement, disability and survivor benefits went to beneficiaries under the railroad retirement programme (367,100), veterans programmes (3,305,800), and the federal civil service system (161,600). Retirement and disability pensions went to some 230,000 state and local government employees and to the survivors of about 38,000 such employees who had died.

The disability payments mentioned above were the only public provisions for compensating wage loss due to a permanent disability that was not caused during employment. For a temporary disability of non-work-connected origin, public provisions were limited to the temporary disability insurance systems in effect in a few states and in the railway industry. For work-connected disabilities—accounting for only about 5% of all disabling illnesses and injuries—federal and state workmen's compensation provisions were in effect.

Unemployment insurance under the Social Security act was a state-federal programme covering the same type of employment as federal old-age and survivors insurance. The benefits were financed by employer contributions but the federal government bore the cost incurred by each state in administering its programme. Benefits were paid to an unemployed worker who qualified on the basis of his previous employment and for whom suitable job openings could not be found. The amount of the weekly payment and the length of time the worker could draw benefits were determined by the provisions of the state law.

Protection against wage loss from unemployment was also available to railroad employees under the Railroad Unemployment Insurance act. In November, about $16,840,000 was paid to an average of 219,100 workers (average number in a 14-day period).

Assistance and Welfare. In Nov. 1949, almost 2,716,000 persons aged 65 or over were receiving old age assistance, at an average payment of $44·50 during the month. More than 1,486,000 children in 585,400 families were receiving aid to dependent children; the average payment was $29·12 per child and $73·93 per family. About 92,200 blind persons received assistance, at an average payment of $46·00.

Other needy persons who could not qualify under one of these special assistance programmes were cared for by general assistance, financed without federal participation. In November, general assistance payments went to 543,000 cases, at an average payment of $50·57 per case. The aggregate amount expended in the month for assistance in all four programmes from all sources—federal, state, and local—was $195,806,000.

The Social Security act also provided federal grants to states to help them extend and improve state and community services for mothers and children. Of the annual total of $22 million authorized for federal grants, certain portions of which must be matched by states, $11 million was for maternal and child health services, $7·5 million for services for crippled children and $3·5 million for child welfare services. (*See* also NATIONAL INSURANCE.) (A. J. A.)

SOCIETIES, LEARNED AND PROFESSIONAL. The learned and professional societies in the United Kingdom continued in 1949 to consolidate their position in

the life of the community after interruptions caused by World War II. It might be said of the majority of them that the period of reconstruction was completed and that they had returned as nearly as possible to normal working. It was not unnatural, however, that the general economic situation affected their programmes; the value of money restricting the scope of those which depended on subscriptions for their income and the choice of subjects for study and discussion being determined in part by the urgent need to consider topical questions affecting the present and future welfare of the world, the nation and the individual.

Among the many subjects which were considered during the year the most outstanding were those concerned with food and people. These topics were offered by the United Nations Educational Scientific and Cultural organization as the title of a theme for world-wide discussion of one of the most pressing of international problems, namely the feeding of a world population increasing at the rate of two million a year with a corresponding increase in the production of food. Additional interest was given to such questions in Great Britain by the publication of the report of the Royal Commission on Population.

A large proportion of the programme of the annual meeting of the British Association for the Advancement of Science at Newcastle-upon-Tyne during the first week in September, which was attended by 3,400 people, dealt with subjects which had a bearing on this theme. Thus an opportunity was provided not only for experts such as chemists, biologists, agricultural scientists, economists and so on to discuss what was being done and what more could be done to improve the position but also to focus public attention on matters which affected all. At the 14th International Veterinary congress, attended by 1,000 delegates from 53 countries, which was held in London (Aug. 8-13), the whole programme was based on this theme as it was thought by the organizers that the world food situation was the most important scientific and practical question of the day. Some aspects of this question were considered at the annual summer scientific meeting of the British Medical association at Harrogate, Yorkshire, and at the first International Congress of Biochemistry held at Oxford. One of the summer schools of the British Social Hygiene council dealt with the family and the nation; the National Institute of Adult Education encouraged discussion groups on food and population problems; the Association of Applied Biologists held a conference on growth-promoting substances in agriculture and horticulture; and many others of the learned societies contributed directly or indirectly to consideration of this theme.

Other significant problems in contemporary thought which received prominent attention among the activities of the learned and professional societies were those concerned with productivity in industry. Such problems included bridging the gap between scientific discoveries and their application, incentives to workers in industry, technical and other adult education, vocational guidance and so on. All these subjects were discussed by various groups of experts, including engineers, economists and psychologists at the meeting of the British Association. Individually they received attention also from such bodies as the National Institute of Industrial Psychology and the British Institute of Management which arranged conferences on single topics. At the close of the year, on Dec. 29, the many national bodies constituting the Conference of Educational Associations held a joint meeting on continued education for vocation.

In the two main fields so far mentioned the societies performed the important functions of assembling information and opinions from experts and, through publication and report, of helping to mould public opinion on questions of the day; but by far the greater proportion of their work during the year was unrelated to immediate practical problems, except in the case of those dealing with the applied sciences.

The principal topics which were dealt with by the learned societies included: modern advances in astronomy; atomic physics; the use of radioactive elements in chemistry and biology; oceanography (particularly deep sea exploration); control of insect populations; results from the development of new research techniques such as chromatography; developments in the design of internal combustion engines; recent fossil evidence with a bearing on the ancestry of man; techniques in education; ecology; and the preservation of nature.

During the year the British Council began work on a revised edition of the *Year Book of the Learned Societies*, an invaluable directory which had been out of print for ten years. The Scientific Film association announced in November that they were making a national survey of makers, owners and users of scientific films, with a view to compiling a comprehensive record of sources of supply and demand and of catalogues, lists and data sheets. In these and many other ways new beginnings were made in documentation.

With further easing of paper supply restrictions, which made possible larger issues of journals, delays in publication of new material were reduced. In May the Royal Aeronautical society produced the first issue of a new publication called the *Aeronautical Quarterly*.

At an Empire conference on scientific information held in 1948, one suggestion put forward for overcoming some of the difficulties of scientists, particularly those in distant parts of the world, in gaining access to published records of original work was to extend the practice of making photocopies. In the spring of 1949, the Royal Society made a declaration that it would regard certain copying from its own publications as "fair dealing" and invited all learned and professional societies to subscribe. By the end of the year about 100 societies had done so. It was thought that this expedient would assist the free flow of information without damage to the societies on such matters as copyright.

The 33rd annual exhibition of scientific instruments and apparatus arranged by the Physical society was held in London in April. It consisted of 150 exhibits and was visited by 13,000 people. A feature of the 1949 exhibition was the renewal of a competition in craftsmanship and draughtsmanship among apprentices and learners which had lapsed for several years. The 94th annual exhibition of photography arranged by the Royal Photographic society was held in the society's house in London in September and October. Pictorial and stereoscopic prints and transparencies were on view from Sept. 9 to Oct. 2; scientific and technical exhibits from Oct. 8-26. For this exhibition 5,300 entries were received of which 863 were accepted. From June 11 to 26 the first exhibition arranged solely for the blind was staged by the Science museum in London in co-operation with the National Institute for the Blind. The exhibition covered a wide range of popular science and each of the exhibits had a special descriptive label in braille.

On March 7 the Royal Institution celebrated the 150th anniversary of its foundation by Benjamin Thomson (Count Rumford). A special evening discourse was delivered by Professor E. K. Rideal who retired at the end of the year from the post of resident director of the institution and was succeeded by Professor E. N. da C. Andrade. The 200th anniversary of the birth of Edward Jenner, the discoverer of vaccination, was celebrated on May 17 by the Wellcome Historical Medical museum, London. The Genetical society (in its 30th year) held its 100th meeting from June 30 to July 1, at Cambridge. To mark the occasion, guest speakers reviewed the early days of genetics and there were comprehensive

demonstrations of genetical work in progress in Great Britain. In celebration of the 100th anniversary of the birth of Ivan Pavlov, a series of lectures on appropriate subjects was delivered during October in the London Institute of Education under the auspices of the Society for Cultural Relations with the U.S S.R.

An agreement designed to bring about a merger between the British Institute of Management and the Institute of Industrial Administration by two stages was signed in 1949. During the first stage, which came into effect immediately, the Institute of Industrial Administration, which had been in existence for 30 years and had a membership of 6,000 would retain its separate identity and its professional activities would continue unchanged; but its executive management, subject to the policy control of its own council, would be undertaken by the staff of the British Institute of Management. It was expected that the merger would be completed in the second stage by 1951 or 1952. During the year 1949, also, the National Institute of Adult Education was formed by the amalgamation of the National Foundation for Adult Education and the British Institute of Adult Education. At a meeting of the British Dental association at the end of November it was resolved to unite the dental profession by forming a single representative association by amalgamation of separate organizations of which the other main one was the Incorporated Dental society. On April 14, the Royal Institute of Chemistry was granted a new charter which made it clear that the institute was concerned with the whole profession of chemistry and not merely that of "analytical and consulting chemistry" as stated in the original charter of 1885.

The principal awards of the main learned societies included the following:

Royal Society: Royal medals to Sir George Thomson for distinguished contributions to many branches of atomic physics and to Professor R. A. Peters for biochemical researches; Copley medal to Professor G. C de Hevesy for work on the chemistry of radio-active elements, Davy medal to Professor A R. Todd for studies and achievements in organic chemistry; Sylvester medal to Professor L. J. Mordell for researches in pure mathematics; Hughes medal to Professor C. F. Powell for work on nuclear particles.

Linnean society: Linnean medal to Professor D. M. S. Watson.

Institution of Civil Enginners: James Alfred Ewing medal to Sir Edward Appleton.

Royal Aeronautical society: Gold medal (the premier award) to S. Cannon, for design and development of fighter aircraft.

Royal Astronomical society: Gold medal to Professor S Chapman for contributions to geophysics and solar physics.

Institution of Mechanical Engineers: James Watt medal to Dr. Frederik Ljungstrom of Sweden for work on the development of the steam turbine

Zoological society: Gold medal to Henry G. Maurice for general service to the society. This medal had been awarded only three times previously since the foundation of the society in 1877.

Physical society: Duddell medal to Dr. E. H. Land, inventor of polaroid. (D. N. L.)

SOIL CONSERVATION. Public statements on soil erosion during 1949 tended to avoid extravagant stories of the amount of damage being done and to concentrate upon the more constructive view of what had been and was being achieved to counterbalance the known losses from sheet erosion and gullying due to water action and from erosion by wind. The direct connection between the loss of cultivable land through gullying, decrease in productivity of cultivated land through sheet erosion and formation of shifting sand dunes and the world's food supply was, however, stressed. Out of a total land area of 35,700 million ac. less than 4,000 million, or about 10% of the whole, was actually cultivated and this again was allocated partly to industrial crops so that the food producing area averaged 1½ ac. per head of world population. Given yields similar to those of Great Britain this would be enough, but the average in most countries was very much less. Thus, with spectacular increases in their population, Asia and Africa faced increasingly heavy deficits of wheat and rice. Every country would have to try to stop erosion losses, make existing fields more productive and bring into some form of production land now lying idle.

In most countries of Asia and Africa marginal land was being ruined, not by ploughing, but by over-grazing by useless village herds. India possessed 300 million head of cattle out of which at least 80 million were surplus and formed a heavy drain upon available fodder. An even worse burden was the huge herds of goats which were largely responsible for the desiccation and spread of desert conditions in India, Pakistan, Baluchistan, Iraq, Persia and many parts of Africa. As this type of land was more used for grazing or ranching than for field crops, the study of grassland improvement was being taken up in many countries. In South Africa over 100 types of veldt were recognized. Crested wheat grass originating in the U S S.R. was now widely used in Canada and the United States. Australia took grasses from many other countries to build up suitable strains by selection and cross-breeding, but lack of seed in many arid grasses was a handicap. The need for a Commonwealth research station to deal with arid and semi-arid grass types was emphasized by Sir John Russell (*q.v.*) in his presidential address to the British Association at Newcastle in Sept. 1949. A great need was for leguminous plants which could serve as pasture improvers in semi-arid conditions in the same way as clover and lucerne had already done for moister regions.

In Australia large tracts of previously infertile land were improved by the application of only a trace of rare soil constituents such as zinc, copper, iodine and boron, to whose absence the infertility was due. Soil barrenness was investigated in the Cawthron institute, New Zealand, and by the Swedes at Svalof, their plant breeding station in southern Sweden.

The reclamation of badly gullied land by means of bulldozers and similar mechanical equipment was demonstrated in the Rawalpindi uplands of the West Punjab where waste land was reclaimed partly for fields and partly for the afforestation of land too steep to terrace economically. For average slopes terracing cost Rs 100 an ac. but where the land was very badly gullied or the slope was up to 8%, the cost rose to Rs.150 or 200 an ac., the Pakistan rupee being worth 9·2 to the £ sterling at the end of 1949. The making of water ponds formed an integral part of this catchment planning because proper field maintenance was apt to be neglected if the plough bullocks had to go far for water in the hot season. Ploughing of fallow between storms was essential if field surfaces were to be kept absorbtive.

The provision of water ponds similarly formed a prominent part in the mechanized land reclamation done by the Overseas Food corporation in northern Queensland and by the Sudan Plantation syndicate. The ambitious groundnuts scheme for developing 3,250,000 ac. of savannah land in Kenya and Nyasaland got off to a bad start owing to causes such as lack of machine spares and to cultivation attachments for ploughing and sowing being unsuitable for the jungle clearance which had to be done before crops could be sown. There was also a danger that complete clearance of jungle vegetation, although an advantage through ensuring freedom from tsetse fly, would eventually lead to serious erosion and

desiccation through lack of windbreaks or shelterbelts. The social side of the problem was to provide enough supervision with an expensive and thinly scattered European staff during the interval until enough capable Africans could be found and trained up to hold supervisory posts.

An example of wind erosion was seen in the Mianwali Thal, a desert district of the West Punjab now being opened up with irrigation from the newly finished Daud Khel barrage across the river Indus. The rainfall was about 8 in. and very erratic and unreliable, and for the previous 30 years the old desert scrub jungle which held the sandy surface had been destroyed by opportunist ploughing of the sloping ground to produce an unirrigated crop of gram (*Phaseolus mungo*). As a result the irrigation farmers who included many groups of ex-service men were faced with land which was now largely shifting sand dunes of from 3 to 15 ft. high and moved around by every storm. Storms in May 1949 not only blew plants out of the ground but also blew away many of the water channels. The cure for this lay in planting hedges as windbreaks round every holding and thicker belts of trees along the banks of all distribution channels.

The U.S.S.R. had announced in Oct. 1949 a new project in which shelterbelts were to be planted along the lower reaches of the Don, Donets, Volga and Ural rivers as an essential step towards preventing droughts such as had hit the Volga basin 20 times in the previous 63 years. Sandy areas were to be afforested, and crop rotations made compulsory in ploughland. A prominent item was again farm ponds of which 44,000 were planned.

Figures of the erosion incidence in New Zealand were published in the *Geographical Magazine* (London, Sept. 1949) in which C. R. Stanton showed that a quarter (15,244,000 ac.) of the total country was already suffering in the following proportions: minor land-slips, 3,200,000 ac.; major slips and torrents, 6,163,000 ac.; wind eroded, 4,557,000 ac.; sheet eroded, 1,324,000 ac. The Soil Conservation and Rivers Control act passed in 1941 worked through local catchment boards which were small groups of officials and non-officials authorized to enforce this law.

Technical knowledge about the way to control erosion was summarized by the United Nations which held a conference on the conservation of natural resources at Lake Success, New York, in Aug. 1949. Papers prepared by British and other workers in the tropical and more backward countries tended to prove that the social and administrative difficulties were much worse than the purely technical problem of stopping erosion. The smallness of individual holdings prevented effective contouring but consolidation of holdings was a lengthy legal process. Collective farming was a difficult matter to introduce amongst primitive or individualistic people who had no previous experience of working on a co-operative principle. Again the local land revenue or taxation authority in charge of village records had no enthusiasm for work which would wreck his own book-keeping system and deprive him of his customary payments. A further difficulty was that common land was nobody's business; the commons in most countries were in poorer condition than they ought to have been, but it was difficul to alter legally admitted grazing rights.

From a technical point of view, it was advisable to tackle each single river from top to bottom of its catchment, starting with the forest protection of the mountain ranges concerned and working downhill to the plains, applying every conceivable remedy no matter to what use the land was being put. In practice national boundaries often defeated this. A notable example of co-ordinated work of this sort was seen in the Rhine Control commission, under whose direction counter-erosion work had gone ahead in Switzerland and Austria through both World War I and II. The creation of new national boundaries might raise fresh difficulties: for instance the occupation of Kashmir by India might prevent the co-ordination of control in the great Punjab rivers all of which have their catchments in the high Himalayas in and around Kashmir; the Indus, Jhelum, Chenab and Ravi were all affected, and even some of the smaller torrents of Jammu province of Kashmir are two miles width of sand at the point they enter the West Punjab. Expensive and vital irrigation works are therefore very vulnerable and the drawing of a new political boundary may greatly complicate the administration of water resources. (R. M. GE.)

United States. During 1949, about 115,000 new soil conservation farm plans, covering more than 32 million ac. were prepared by Soil Conservation service technicians working with farmers and ranchers in soil conservation districts. More than 22 million ac. were given complete conservation treatment, and 26 million additional acres were covered by detailed conservation surveys. By July 1, a total of 740,000 farms covering 202 million ac. had been planned for conservation treatment and use. Complete conservation plans were in use on 668,322 farms totalling 185 million ac.

Throughout the country, in co-operation with the experimental stations of all states, and also in Puerto Rico, the Soil Conservation service carried out many research investigations in specific areas. Outstanding results were reported in the use of legumes in combination with stubble mulching on arable land in Washington and Idaho. Grass and legume cover crops were used in southern Californian vineyards to control wind erosion and sand drifting, and there was an increase in the use of organic matter on the tobacco lands of Maryland and North Carolina. The extension of disc-pitting principles as a method of seed-bed preparation, formerly developed in Wyoming, to the range lands of Arizona, resulted in the highly successful establishment of grasses in arid regions.

Fourteen more states began schemes for the improvement of wild life habitation, in co-operation with soil conservation authorities. Thirty-five states were engaged on similar schemes in 1949. The state wild life agencies supplied planting stock, seeds and fencing materials to carry out those provisions of farm conservation plans prepared by farmers and the Soil Conservation service which affected wild life preservation.

An important aspect of the soil conservation programme was the distinct trend towards grassland farming in many districts. Completed conservation farm plans called for nearly 13 million ac. of range and pasture seeding, more than 87 million ac. of range and pasture improvement and large quantities of grass seed for use in crop rotations. Seed of scientifically tested conservation grasses continued to be in short supply, and for this reason the resources of the Soil Conservation service and hundreds of soil conservation districts were utilized to obtain larger amounts. The greatest success achieved was in the harvesting of native grass seed from farm plots in northeastern Oklahoma and Texas. More than 5 million lb. of the seed of native tall grasses and mid-season grasses were harvested on these farms. The bulk of the harvest consisted of the bluestem, Indian grass and switch grass. These were the best known varieties for planting in areas subject to wind erosion. Tall grasses with a greater yield were also in demand for conservation plantings in northern and southeastern states, where efforts were made to increase seed supplies of orchard grass, brome grass, timothy and the newly developed Kentucky-31 fescue or Suiter's grass. The Great Plains Agricultural council reported that by July 15, 1949, more than 10·2 million ac. of formerly cultivated land in the Great Plains had been returned to grass.

Active flood control projects were carried out in 11 major watershed areas by the Soil Conservation service in co-operation with farmers and ranchers during 1949. The areas

concerned were: the Little Sioux in Iowa; the Yazoo and Little Tallahatchie in Mississippi; the Coosa in Georgia; Buffalo creek in New York; the Trinity and Middle Colorado in Texas; the Los Angeles and Santa Ynez in California; the Washita in Oklahoma and Texas; and the Potomac in Virginia, Maryland, Pennsylvania and West Virginia. Flood control surveys also were under way or completed in 59 other watershed areas, and plans had been prepared by Soil Conservation service technicians for 450 sub-watersheds.

Heavy winter snows provided an outstanding test of the value of windbreak plantings in the Great Plains, and this combined with a wider use of mechanical tree planters stimulated widespread planting in the autumn of the year. In the heart of the blizzard area, belts which had been properly planted and cared for not only kept snow from drifting over roads and around farmsteads, but served in trapping snow for moisture storage in the soil. About 1,300 mi. of field windbreaks were planted in soil conservation districts in the fiscal year 1948-49. This brought the total length of windbreaks planted in accordance with soil conservation planning since 1942 to approximately 7,000 mi. Eighty million trees were used in planting them.

Philippines. The Division of Soil Survey and Conservation, Department of Agriculture and Natural Resources, completed a reconnaissance survey of the erosion problem. The survey showed that of the 29,094,000 ac. of open and cultivated land in the Philippines, about 10 million ac. were subject to severe erosion; about 12·4 million ac. were subject to all stages of erosion; and nearly 7 million ac., largely rice paddy, were either not eroded or only slightly eroded. A total of 2,277,000 ac., mostly land farmed by shifting cultivation and abandoned, should be reafforested to save it from destruction by flooding and other damaging processes. During the year, the Division of Soil Survey and Conservation established the first soil conservation demonstration farm at San Ildefonso, Bulacan. (*See* also FLOODS AND FLOOD CONTROL; METEOROLOGY.) (H. H. BE.)

SOLOMON ISLANDS: *see* TRUST TERRITORIES

SOLOMON ISLANDS PROTECTORATE: *see* PACIFIC ISLANDS, BRITISH.

SOMALILAND, BRITISH: *see* BRITISH EAST AFRICA.

SOMALILAND, FRENCH: *see* FRENCH UNION

SOMALILAND, ITALIAN: *see* ITALIAN COLONIAL EMPIRE.

SONGGRAM, LUANG PIBUL, Thai army officer and statesman (b. Bangken, Thailand, July 14, 1897), prime minister of Thailand from April 1947. (For his early career see *Britannica Book of the Year 1949.*)

On the reshuffle of his cabinet in June 1949, Marshal Pibul continued in office as prime minister, taking also the Ministry of Foreign Affairs from Prince Pridi Debyabongs Devakula. On the resignation of the minister of finance, Prince Viwat Jayanta, in October, Marshal Pibul took charge of the finance portfolio, transferring foreign affairs to Nai Pote Sarasin who had been deputy minister of foreign affairs.

SOULBURY, HERWALD RAMSBOTHAM, 1st Baron, of Soulbury, Buckinghamshire, British politician (b. March 6, 1887), was educated at Uppingham school and at University college, Oxford, and in 1911 was called to the bar. From May 1929 he sat in the House of Commons as Conservative member for Lancaster until 1941 when he was raised to the peerage. He was parliamentary secretary of the Board of Education, 1931-35; parliamentary secretary to the Ministry of Agriculture and Fisheries, 1935-36; minister of pensions, 1936-39, and first commissioner of works, 1939-40. In April 1940 he was appointed president of the Board of Education and from July 1941 until July 1948 he was chairman of the Assistance Board. In 1944 he was appointed chairman of the Ceylon commission which made proposals that led to the granting of dominion status to the colony. On Feb. 4, 1948, Ceylon became a dominion and in July 1949 Lord Soulbury succeeded Sir Henry Monck-Mason Moore as governor general. He arrived in Ceylon on July 6 and was sworn in by Sir Arthur Wijeyewardene, the chief justice and acting governor general. On July 12 he delivered the speech from the throne at the opening of the third session of the Ceylon parliament. Members of the House of Representatives and the Senate paid tribute to him for the part he had played as chief architect of the constitution which had brought dominion status to Ceylon. Replying to an address by the mayor of Kandy on Aug. 9 he made his first speech in Sinhalese. He was appointed to the privy council in 1939 and was created a G.C.M.G. in 1949.

SOUTH AFRICA, THE UNION OF. A self-governing dominion of the Commonwealth of Nations. The four provinces of which it consists extend from the southernmost point of the African continent to the Limpopo river in the north. The total area of the Union is 472,550 sq. mi. and the total population was estimated in 1940 at 10,341,200, divided between the provinces as follows:

	Area (in sq. mi.)	*Population* (1940 est.)
Cape of Good Hope	277,169*	3,733,300
Natal	35,284	2,085,600
Orange Free State	49,647	808,400
Transvaal	110,450	3,713,900

* Includes Walvis Bay (430 sq. mi., pop. [1936] 2,035), which is an integral part of the Cape province but has been administered since 1922 by South-West Africa. This former German colony (area, 317,725 sq. mi.; pop. [1948 est.], European 38,000, Bantu and mixed 331,000) is administed under mandate as an integral part of the Union, but has not been incorporated as a province (*see* also TRUST TERRITORIES)

The following table gives the returns of population at the censuses of 1936 and 1946, and the official estimates for mid-1949, classified according to race:

	1936 census	1946 census	1949 est.
European	2,003,857	2,372,690	2,571,000
Bantu	6,596,689	7,805,515	8,223,000
Mixed	769,661	928,484	1,003,800
Asiatic	219,691	285,260	314,000
Total	9,589,898	11,391,949	12,111,800

Official languages (European pop., 1946): Afrikaans (55·9%), English (39·9%). Religions: (European pop., 1946) Christian 95·5% (Dutch Reformed Church 55%, Anglican 19%, Methodist 6%, Presbyterian 5%, Roman Catholic 5%, etc.), Jewish 4%; (non-European pop., 1946) Christian 51%, no religion 44%, remainder Hindu, Moslem and Buddhist. Chief towns (pop., 1946 census): Capetown (*q.v.*) (seat of legislature, 454,052, including 220,398 Europeans); Pretoria (seat of government, 236,367, including 130,180 Europeans); Johannesburg (*q.v.*) (727,743, including 332,026 Europeans); Durban (357,304, including 130,143 Europeans); Port Elizabeth (146,231, including 65,271 Europeans). Governor general, Major Gideon Brand van Zyl; prime minister and minister of external affairs, Dr. Daniel François Malan (*q.v.*).

History. The year 1949 was notable for political controversy, racial feeling, economic difficulties and financial stringency in governmental, commercial and industrial circles. Large parts of the country also suffered from severe drought conditions, especially eastern Cape districts. The Union parliament met on Jan. 26 and remained in session until early July. When introducing his budget in March, N. C. Havenga, the minister of finance, emphasized that the Union must live within its means. Expenditure for the

financial year 1949-50 was estimated at £140 million. A 20% surcharge on both income and supertaxes was imposed. The estimated deficit for the year was £2·4 million, as against a surplus for the previous year of £7·5 million. In April the prime minister attended the Commonwealth conference in London, dealing with the proposed change of status of India in the Commonwealth of Nations. Before his departure Dr. Malan emphasized that South Africa had no desire to become isolationist and, after his return, stated: "In the life of the present parliament, elected at the last general election, we shall take no steps to establish a republic." It was clear, however, from the debate which followed his speech, that a number of his adherents did not share his views.

In June two controversial measures were passed, the Citizenship act and the Mixed Marriages act. The former, ostensibly introduced in order to regularize the position of South African citizens consequent upon the new Commonwealth status, in effect disfranchized about 45,000 recent settlers, who had emigrated to the Union in the belief that they would enjoy full rights of citizenship after two years of residence. The bill, which was forced through both houses in only 12 days, partly by compelling the Senate to accept it as an urgent measure, became effective, despite countrywide opposition, on Sept. 2. In future, British and other Commonwealth immigrants to South Africa, would have to wait five years for citizenship and settlers from other countries six years. Even then their admission to citizenship would be entirely dependent upon the approval of their registration by the minister of the interior, who might refuse citizenship without assigning any reason.

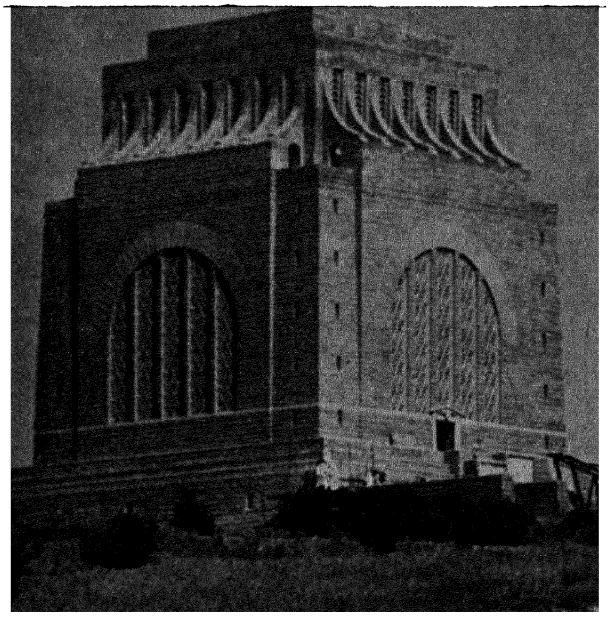
The Mixed Marriages bill was introduced to make illegal all marriages between Europeans and people of other races. Public opinion, it was pointed out by the opposition, had already reduced these unions to no more than 77 out of 28,385 marriages in 1946. The application caused embarrassment and criticism.

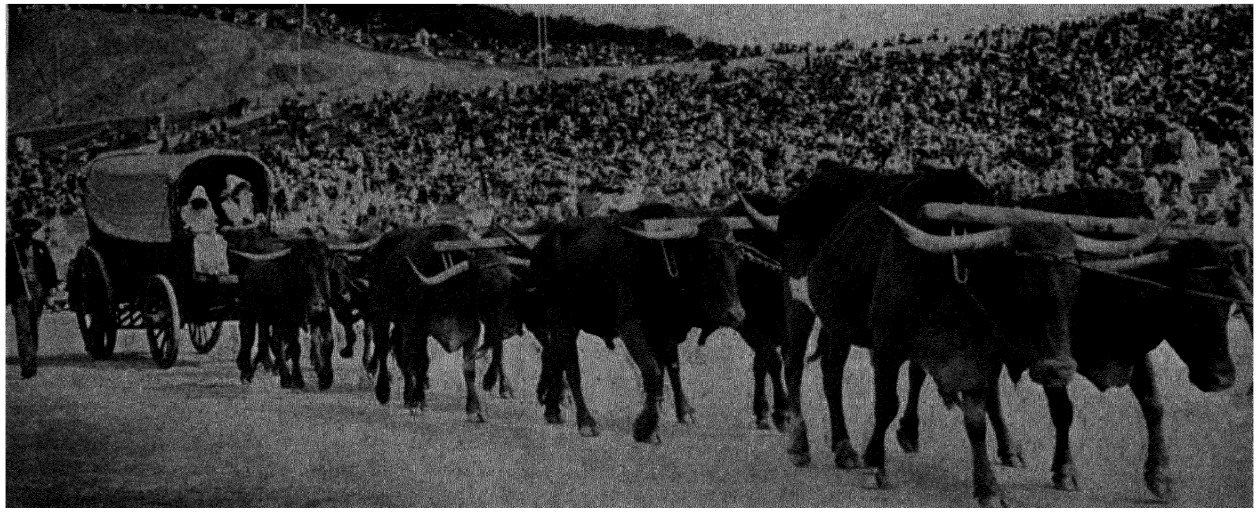
In August the cabinet was reconstructed and the portfolios re-apportioned; though bilingual, none of the cabinet members regarded English as their mother tongue (*see* CABINET MEMBERS).

Amid much rejoicing, on the part of the Afrikaans-speaking section, the Voortrekker memorial outside Pretoria was unveiled on Dec. 16, Dingaan's Day.

Native Affairs. Relations between Europeans and the other races of the Union deteriorated during the year. In January the Natives Representative council was dissolved. This body had not, in any event, met for two years. The secretary for Native affairs made it clear that the government was not prepared to abolish discriminatory legislation, nor to give the council any executive authority over the development of the Native reserves or the finances of Native councils. It was, however, prepared to consider any reasonable suggestions for co-operation between the white and black races. Its intention was to encourage and develop the local council and *Bunga* system throughout the Union, with due regard to the ethnical and tribal situation of the several Native peoples.

Considerable time was occupied in parliament and elsewhere in discussion about the three Europeans who represented the Natives in the Cape province in the House of Assembly; the coloured voters on the electoral rolls of Cape constituencies and the question of "apartheid" or segregation. The opposition maintained that Native representation was enshrined in the so-called "entrenched" clauses of the South Africa act, virtually the constitution of the country. It was





The Voortrekker monument (left) overlooking Pretoria which was opened on Dec. 16, 1949, by D. F. Malan and General Jan Smuts. Part of the large amphitheatre with seating accommodation for 50,000 is seen crowded during the ceremony (below).

argued by government supporters that the statute of Westminster and other inter-Commonwealth developments had rendered the requirement of a two-thirds majority of both houses of parliament to change the constitution, as laid down in the act, no longer necessary. A simple majority decision in both houses separately was all that was needed. It was suggested the Senate was the best place for Native representatives to sit. The opposition contended that nothing had occurred in inter-Commonwealth relations which entitled the Union to alter its constitution in a matter so vital to peaceful racial co-operation, without carrying out the safeguards laid down in the act. The government gave notice of introducing legislation, along their own lines, early in 1950. The outcome would depend, to a considerable extent, upon the attitude of N. C. Havenga and his Afrikaaner party, which held nine seats in the House of Assembly; Havenga had shown himself, during the 1949 session, more inclined to abide by the constitution than his other colleagues in the cabinet.

To ascertain the effect of taking the coloured voters off the mixed rolls in the Cape, enquiries were instigated during the latter part of the year in a few constituencies. So embarrassing were the questions as to racial descent, even among government supporters, that the investigation had to be soft-pedalled. So far as "apartheid" was concerned, the issue upon which the Nationalist government was really returned to office, its precise definition remained elusive. Certain minor measures were adopted, in addition to the insistence that separate carriages should be reserved for Europeans only on Cape suburban trains; segregation was intensified in both railway stations and post offices; and, in the Government's economy drive, many minor Native servants of the state were dismissed only to be replaced by Europeans. Dr. W. W. M. Eiselen, an exponent of "apartheid," was appointed secretary for Native affairs in October, against the recommendation of the Public Service commission, which had advised that the next senior civil servant should succeed to the position.

While parliament was still in session Dr. A. J. Stals, then minister of education, said that grants to enable Native children to obtain meals at school would be withdrawn. The opposition to this measure was so intense that it was subsequently modified. Although two conferences were held on the question of Native housing, for which there was an estimated demand for close on 300,000 dwellings, little was settled. The municipalities, with some justice, claimed that they were in no position to finance the vast schemes required. Industry, on the other hand, showed extreme reluctance to pay any subsidy toward housing their Native employees, without whom their factories could not function. Meanwhile there were at Cato Manor, near Durban, at Alexandra township, outside Johannesburg, and at many other places within the Union, bordering the main industrial centres, shanty dwellings with little sanitation, overcrowding and all the other evils of bad housing, far below decent 20th century standards. Coupled with bad housing conditions wages for Native workmen were below proper subsistence level to such an extent that malnutrition, tuberculosis and venereal disease were rampant in many districts.

So serious were the results of this situation that, on facts given by C. R. Swart, the minister of justice, Communism was said to be increasing its adherents among the Native population at an alarming rate. Bad feeling on the whole position of the Natives resulted in serious riots with loss of life at Durban during January and minor disturbances took place at Johannesburg, Krugersdorp and Randfontein later in the year.

Economic Position. The most important events during 1949, in the economic sphere, were the ban on imports, owing to the shortage of both sterling and dollars, and devaluation. Strict import control was imposed and certain goods were completely banned because South Africa had spent more than it could afford abroad. At the same time, after the Nationalist government took office, much capital left the country; nor had it proved easy for the Union later to raise any large loans either internally or from Great Britain or the United States. Devaluation immediately improved the situation of the gold mines, whose output appreciated some £40 million overnight, and many of the mines, regarded as marginal producers, began to show increased profits. Another consequence was the payment of 15% higher wages to mine workers in the gold and coal industries. These increases had long been due but the position of the mines hitherto had made any rise impossible. On the debit side was the increased price for petrol and white bread

The ban on imports, besides hitting commerce adversely, also struck at Union industries importing raw materials. Shortage of ready money affected the building industry, many workers becoming unemployed. Although carrying record quantities of goods the South African railways showed steadily mounting losses at the rate of £4 million a year. Two accidents, the worst in the history of the South African railways, at Orlando and Waterval Boven, caused much loss of life. (W. R. GN.)

Education. *State schools* (1947): Primary schools 1,190 (European 1,110), pupils 115,368 (European 92,291), teachers 3,927; secondary and high schools 241, pupils 75,339 (European 65,232), teachers 3,122; Mission schools 3,036, pupils 386,054, teachers 9,421, other schools 99, pupils 3,031, training institutions 32 (European 9), pupils 3,790 (European 874), teachers 218 *Private schools* (1947): Kindergarten schools 92; primary schools 773; secondary schools 114; commercial and business schools 19; other schools 10. Pupils at all private schools 73,787 (European 36,500) Technical colleges (1946) 11, students 43,110, teachers 2,063. Universities (1946) 4 and constituent colleges of the University of South Africa 5, students 19,994, professors and lecturers 1,743

Agriculture and Fisheries. Main crops (in '000 metric tons, 1948) maize 1,800; wheat 477; oats 87; barley 43; rice (milled equivalent) 17; potatoes 303; groundnuts 74; sugar (raw value) 533; tobacco 18·6; raisins 8 5; currants 1·0; oranges and tangerines 180, grapefruit 16; lemons 4. Livestock (in '000 head): cattle (Aug. 1946) 12,593; sheep (Aug. 1946) 30,382; pigs (1945-46) 1,118; horses (1945-46) 687; chickens (Aug 1947) 9,194. Wool production (in '000 metric tons, on greasy basis, 1947-48; 1948-49 in brackets): 93 (99).

Industry. (1947) Industrial establishments 11,886; persons employed 558,725 (Europeans 194,937); gross value of output £491·8 million; net value of output £225·1 million. Fuel and power (1948; 1949, six months, in brackets): coal (in '000 metric tons) 23,558 (11,908); electricity (in million kwh) 9,259 (4,778). Raw materials (in '000 metric tons 1948; 1949, six months, in brackets): iron ore, metal content, 1,163 (615); pig iron 654 (353); steel ingots and castings 599 (315); copper 29·8 (17·0). Gold (in '000 fine oz. 1948; 1949, six months, in brackets) 11,585 (5,742). Diamonds (in '000 metric carats, 1948), 1,382 Cement (in '000 metric tons, 1948; 1949, six months, in brackets) 1,308 (643). Employment in manufacturing, including building (index on base 1937=100, 1948; 1949, six months, in brackets) 156 (162)

Foreign Trade. (1948) Imports £SA352·2 million; (1949, six months) £SA174·4 million. Exports, excluding gold bullion: (1948) £SA134·3 million, (1949, six months) £SA68 3 million Main sources of imports (1948) United States 35·0%, United Kingdom 34·6%. Main destinations of exports, excluding gold bullion (1946): United Kingdom 19 8%, United States 19·3%.

Transport and Communications. Licensed motor vehicles (Dec. 1948) cars 384,000, commercial vehicles 104,000. Railways: (1945) 13,480 mi.; passengers carried (1945) 218 million; freight ton-mi. (1948) 9,858 million. Shipping (July 1948): number of merchant vessels of 100 tons and upwards 155, total tonnage 173,623. Air transport (1947): mi. flown 11·5 million, passengers flown 95,000. Telephones (1947-48). subscribers 206,493.

Finance and Banking. Budget (in million £SA): (1948-49) revenue 143·4, expenditure 135·8; (1949-50 est.) revenue 137·8, expenditure 140·2. National debt (March 1949, in brackets March 1948) £SA662·1 (609·0) million. Currency circulation (Aug. 1949; in brackets Aug 1948) £SA63·6 (64·4) million. Gold reserve (Sept. 1949; in brackets Sept. 1948) 121 (269) million U S. dollars. Bank deposits (Aug. 1949; in brackets Aug. 1948) £SA287 9 (346·9) million. Monetary unit *South African pound* at par with the pound sterling

SOUTH AFRICAN LITERATURE. English. Though the output of books during 1949 was considerable there was a notable dearth of first rate imaginative literature. Of greatest merit was *Face to Face* by Nadine Gordimer (Johannesburg), short stories in the modern mode, subtly conceived out of a sensitive perception of the South African scene. Herman Charles Bosman presented with realism the intimate lives of long-term convicts in a South African gaol, in *Cold Stone Jug* (Johannesburg). *African Dawn* by Langwill Hunter (Lovedale) told a sympathetic tale of modern Bantu life. Bantu history provided a subject for Oliver Walker's Proud Zulu (London), a spirited tale of the fall of the Zulu people under Cetewayo and his white chief, John Dunn.

Historical literature included two important books by Sidney R. Welch: *South Africa under John III, 1521-1557*, and *South Africa under King Sebastian and the Cardinal* (Capetown), the fruits of original research in Portuguese and other sources. There were also biographical works of historical and political interest: Sir James Rose Innes' *Autobiography* (Capetown), *Memoirs and Reminiscences vol. 2* (Capetown) by Sir John Gilbert Kotze, and *The Life and Times of Daniel Lindley* (London) by Edwin W. Smith. Eric Rosenthal's *African Switzerland* (Capetown) was a lively book of travel, history and comment about Basutoland.

The authoritative and comprehensive *The Sea Fishes of South Africa* by J. B. L. Smith (Capetown) and *Farming Practical and Scientific* by John Fisher (Durban) were the most outstanding books of scientific interest. (L. HMN.)

Afrikaans. Since 1932 lyric poetry had dominated Afrikaans literature, and 1949 was no exception. D. J. Opperman's *Joernaal van Jorik* was a long narrative poem which confirmed the impression made previously by this winner of the Academy award for poetry. A volume of poems by Uys Krige, *Hart Sonder Hawe*, broke new ground with the publication of poems in both official languages of the Union of South Africa. A long narrative ballad by I .D. du Plessis *Ballade van die Eensame Seeman*, was favourably received.

The growing demand for translations of the classics was met by a number of works including Edgar Allen Poe's *Tales of Mystery and Imagination* and Stevenson's *Dr. Jekyll and Mr. Hyde*, published by the *Afrikaanese Kulturele Leserskring*.

Critical essays were well represented by a work on modern poetry, *Die Duister Digter* (Grové). Prose output of quality was scanty and best represented by *Die Eindelose Waagstuk* by M. E. Rothmann, whose clarity, maturity and sincerity of purpose were a major contribution to this section of Afrikaans literature in the 1939-49 decade. (I. D. DU P.)

SOUTHERN RHODESIA. A self-governing African colony in the Commonwealth of Nations, with imperial government supervision over Native rights. Area: 150,333 sq. mi. Pop. (Aug. 31, 1949, est): 2,021,900 (European 115,500; African 1,898,000; Asiatic 3,400; mixed 5,000). Chief towns (1949 est., Europeans only): Salisbury (cap., 32,000); Bulawayo (28,000); Umtali (4,200); Gwelo (4,000). Languages: English, Afrikaans and Native tribal languages. Governor, Major General Sir John Noble Kennedy; prime minister, Sir Godfrey Huggins.

History. Politically it was an uneventful year. The United party lost the only by-election held in 1949, being defeated by the Rhodesia Labour party candidate in Bulawayo district. A Liberal party candidate was second. The prime minister headed a delegation to a meeting with non-official representatives of Northern Rhodesia and Nyasaland at the Victoria Falls under the chairmanship of Sir Miles Thomas to discuss federation of the three territories. A resolution in favour of "a constitution which will create a federated parliament with such powers as are surrendered to it and which will not affect the other powers of the governments of member states" was passed on Feb. 17. The constitution would be modelled on that of Australia. Commenting on the proposal, the secretary of state for the colonies said in London that His Majesty's government had a special responsibility for Africans and pointed out that no African took part in the conference. During the visit of the secretary of state to Northern Rhodesia, Sir Godfrey Huggins flew to Lusaka to discuss federation and financial matters Philip J. Noel-Baker, secretary for Commonwealth relations, after consultations in December with T. H. W. Beadle, Rhodesian minister of internal affairs, recommended further investigations of the problem between the parties concerned.

The minister of finance, E. C. F. Whitehead, headed a delegation to London to present to the British government the colony's four-year plan for loan expenditure and to ascertain whether British industry could supply capital goods for the production targets. He also attended the conference of Commonwealth finance ministers in London. The prime minister relinquished the portfolio for Native affairs.

A Royal commission on town-planning and a special research department for conservation works were established. Price control was removed from a wide range of commodities during the latter part of the year and permit control of building ceased except in Salisbury and Bulawayo.

Budget changes included a tax on undistributed profits, an increased duty on imported spirits, a higher surcharge on cigarettes, reintroduction of the 2*d.* rate for postage within the colony, doubling the rate of transfer duty on property valued at more than £20,000, an increase of 3*d.* per gallon on petrol, a tax on non-industrial Native labourers and an increase from 20% to 30% in entertainment tax. A 20% export tax was imposed on Virginia flue-cured tobacco. This caused considerable controversy and was reduced to 15%. Later it was withdrawn in favour of a five-year loan of 15% of the proceeds of tobacco sales. Control over all financial transactions outside the sterling area was strengthened. The 3½% development loan (1968-78) closed in March with total subscription of £6 5 million, and an issue of £1 8 million 3% Treasury bonds (1954) was offered.

A new peacetime establishment for the territorial force was approved comprising armoured cars, artillery, engineers, signals, two battalions of infantry and a medical corps. The annual defence force camp was attended by units from Northern Rhodesia, Nyasaland and Kenya.

Government assumed control of all base mineral exports. The gold subsidy was modified to the advantage of low grade workings and was withdrawn when the pound was devalued. A bill was introduced to terminate within six years the mineral concessions granted to the British South Africa company without compensation; but this was amended to include compensation after six years An agreement was completed with the Wankie Colliery company for the company to retain an area containing 350 million tons of extractable coal over 100 years. The estimated production in 1949 was over 2 million tons and plans were in hand to raise it to 3 5 million tons a year.

Sir William Halcrow visited the country to advise on the development of hydro-electric power in the Kariba gorge. The Industrial Development commission ceased in March. Central African Airways corporation had an accumulated loss of £280,000 in March 1949. The board of the corporation resigned and a new one was appointed. Immigration in 1948 amounted to 14,439, and for the first nine months of 1949 during which restrictions were in force, to 10,793. The cost of living index (1939=100) reached 153.

Education. *European* (1949). schools, government primary 69, pupils 12,377, teachers 447, high 11, pupils 4,531, teachers 265; aided private 21, pupils 3,638; aided farm 13, pupils 195. *Asiatic and Mixed* (1949): schools government primary 12, pupils 1,774, teachers 60, aided 4, pupils 886 *Native* (1948) schools, primary 1,994, pupils

204,172, teachers 5,327 African and 204 European Teacher training schools 18

Industry. Fuel and power coal (in long tons) (1948) 1,869,000, (Jan.-Aug. 1949) 1,380,000, electricity (1948-49) 173 million units sold. Raw minerals gold (1948) 514,440 oz., (Jan.-Aug. 1949) 359,000 oz., asbestos (1948) 69,000 long tons, (Jan.-Aug. 1949) 53,000 long tons, chrome (1948) 254,000 long tons, (Jan.-Aug. 1949) 167,000 long tons

Agriculture. Tobacco (Virginia, 1948-49) 81,714,330 lb. Livestock (1948) cattle 2,821,000, sheep 301,000, goats 555,000, pigs 103,000, poultry (Europeans only) 510,000

Foreign Trade. (Jan.-July 1949) Imports £28,992,000, exports £15,578,000, re-exports £2,548,000.

Transport and Communications. (1948) Main roads *c.* 15,500 mi., including *c.* 2,500 mi. with tar-macadam strips Railways 1,352 mi., passenger traffic 2,829,913, goods traffic 5,096,986 long tons

Finance and Banking. Budget (1948-49 actual) revenue £13,575,000 expenditure £13,546,000; (1949-50 est.) revenue £15,059,000, expenditure £16,480,962 National debt (March 1949) £75,380,359. Currency circulation (March 1949) £8,402,000 (including Northern Rhodesia and Nyasaland) (G. R. MN.)

SOUTH PACIFIC COMMISSION.

This is an advisory body, similar to the Caribbean commission (*q.v.*), which was set up by the agreement of 1947. It is designed to promote and develop international co-operation by improving the economic and social welfare of the inhabitants of the territories administered by its members: Australia, France, the Netherlands, New Zealand, United Kingdom and the United States. The geographical jurisdiction of the commission embraces all the non-selfgoverning territories in the Pacific which are administered by member governments and are wholly or partly situated south of the equator and east of Dutch New Guinea, including the latter. The agreement provides that the commission shall be assisted by two auxiliary bodies, the Research council and the South Pacific conference.

At its first meetings, held in 1948, the commission appointed its senior officers and the members of its Research Council. It also decided to establish its permanent headquarters at Nouméa, New Caledonia. Early in 1949 the members of the Research council made a rapid tour by air of a number of the territories within the jurisdiction of the commission. At the conclusion of the tour the council held its first meeting at Nouméa from April 30-May 9. At this meeting it drew up a broad research programme including the collection of information on or the study of the following subjects in the fields of health, economics and social welfare: epidemiological information; infant and maternal welfare; tuberculosis; nutrition and diet; introduction of economic plants; copra, rice and cacao; pasture improvement; land use survey; fruit and vegetable grading; coral island and atoll crops; by-products of atolls; fisheries; diet and working tools of indigenous peoples; insect pests and weeds; credit facilities; world agricultural census; information on technical and professional training; wireless broadcasting and visual aids in education; literary training; conference of educators; review of work in social anthropology; survey of linguistic research; native co-operative societies; survey of building types; pilot project for developing a selected community; the preservation of archæological sites.

The meeting of the Research council was followed by the third meeting, also held at Nouméa, of the commission itself from May 7-17. The senior commissioner for the Netherlands took the chair for the session. It approved the report of the Research council, embodying the above projects and calling for an estimated expenditure of £7,440 in 1949 and £35,275 in 1950. It accepted a report of its library committee that, within the existing resources of the commission, it should assemble and distribute bibliographical material on the region. It decided that the first South Pacific conference should open on or about April 24, 1950, at Suva, Fiji, and that the proceedings should be conducted in English.

The fourth meeting of the commission was held at Nouméa in Oct. 1949. (J. A. HU.)

SOUTH-WEST AFRICA: *see* SOUTH AFRICA, THE UNION OF; TRUST TERRITORIES.

SOVEREIGNS, PRESIDENTS AND RULERS.

The following list includes the names of those holding chief positions in their countries on Jan. 1, 1950:

Country	*Name and Office*	*Accession*
AFGHANISTAN	Mohammad Zahir Shah, King	1933
	Sardar Shah Mahmud Khan, prime minister	1946
ALBANIA	Dr. Omer Nishani, chairman of the presidium of the People's Assembly	1946
	Enver Hoxha, prime minister	1944
ARABIA, SAUDI	Abdulaziz Ibn Abdurrahman Ibn Faisal Ibn Sa'ud, King	1927
ARGENTINA	General Juan Domingo Perón, president of the Republic	1946
AUSTRALIA	William John McKell, governor general	1947
	Robert Gordon Menzies, prime minister	1949
AUSTRIA	Karl Renner, federal president	1945
	Leopold Figl, federal chancellor	1945
BAHREIN	Sheikh Sulman Ibn-Hamad al-Khalifah, Ruler	1942
BELGIUM	Leopold III, King (in exile)	1934
	Prince Charles, Regent	1944
	Gaston Eyskens, prime minister	1949
BHUTAN	Jigme Wangchuk, Ruler	1927
BOLIVIA	Mamerto Urriolagoitia, president of the Republic	1949
BRAZIL	General Eurico Gaspar Dutra, president of the Republic	1946
BULGARIA	Mincho Neychev, chairman of the presidium of the National Assembly	1947
	Vasil Kolarov, prime minister	1949
BURMA	Sao Shwe Thaik, president of the Republic	1948
	Thakin Nu, prime minister	1948
CANADA	Viscount Alexander of Tunis, governor general	1946
	Louis Stephen St. Laurent, prime minister	1948
CEYLON	Lord Soulbury, governor general	1949
	Don Stephan Senanayake, prime minister	1948
CHILE	Gabriel Gonzalez Videla, president of the Republic	1946
CHINA Republic (Nationalist)	Li Tsung-jen, acting president	1949
	Yen Hsi-shan, prime minister	1949
CHINA People's Republic (Communist)	Mao Tse-tung, chairman of the Central People's Government Council	1949
	Chou En-lai, chairman of the State Administrative Council	1949
COLOMBIA	Mariano Ospina Pérez, president of the Republic	1946
COSTA RICA	Otilio Ulate Blanco, president of the Republic	1949
CUBA	Carlos Prio Socarrás, president of the Republic	1948
CZECHOSLOVAKIA	Klement Gottwald, president of the Republic	1948
	Antonin Zapotocký, prime minister	1948
DENMARK	Frederik IX, King	1947
	Hans Hedtoft, prime minister	1947
DOMINICAN REPUBLIC	Rafael Leonidas Trujillo y Molina, president of the Republic	1942
ECUADOR	Galo Plaza Lasso, president of the Republic	1948
EGYPT	Farouk I, King	1936
	Hussein Sirry Pasha, prime minister	1949
ETHIOPIA	Haile Selassie I, Emperor	1930
	Bitwadded Makonnen Endalkachaw, prime minister	1944
FINLAND	Juho Kusti Paasikivi, president of the Republic	1946
	Karl August Fagerholm, prime minister	1948
FRANCE	Vincent Auriol, president of the Republic	1947
	Georges Bidault, prime minister	1949
GERMANY (West) Federal Republic	Theodor Heuss, federal president	1949
	Konrad Adenauer, federal chancellor	1949
GERMANY (East) Democratic Republic	Wilhelm Pieck, president	1949
	Otto Grotewohl, minister-president	1949
GREAT BRITAIN	George VI, King	1936
	Clement Richard Attlee, prime minister	1945
GREECE	Paul I, King	1947
	Alexandros Diomidis, prime minister	1949
GUATEMALA	Juan José Arévalo, president of the Republic	1945
HAITI	Dumarsais Estimé, president of the Republic	1946
HONDURAS	Juan Manuel Galvez, president of the Republic	1949
HUNGARY	Arpad Szakasits, Chairman of the presidium of the National Assembly	1948
	István Dobi, prime minister	1948
ICELAND	Sveinn Bjornsson, president of the Republic	1944
	Olafur Thors, prime minister	1949
INDIA	Chakravarti Rajagopalachari, governor general	1948
	Jawaharlal Nehru, prime minister	1947
INDO-CHINA Cambodia	Norodom Sihanouk, King	1941
INDO-CHINA Laos	Sisavang Vong, King	1949
INDO-CHINA Vietnam	Bao Dai, chief of state	1949
INDONESIA	Ahmed Sukarno, president of the Republic	1949
	Mohammed Hatta, prime minister	1949
IRAQ	Faysal II, King	1939
	Abdulilah, Prince Regent	1939
	Ali-Jawdat al-Ayyubi, prime minister	1949
IRELAND	Sean Thomas O'Kelly, president of the Republic	1945
	John Aloysius Costello, prime minister	1948

Country	Name and Office	Accession
Israel	Chaim Weizmann, president of the Republic	1948
	David Ben-Gurion, prime minister	1948
Italy	Luigi Einaudi, president of the Republic	1948
	Alcide De Gasperi, prime minister	1946
Japan	Hirohito, Emperor	1926
	Shigeru Yoshida, prime minister	1948
Jordan	Abdullah Ibn Hussein, King	1946
	Tawfiq Pasha Abulhuda, prime minister	1947
Korea (South) Republic of Korea	Syngman Rhee, president of the Republic	1948
	Lee Bum Suk, prime minister	1948
Korea (North) People's Republic	Kim Du Bon, Chairman of the presidium of the Supreme People's Assembly	1948
	Kim Ir Sung, prime minister	1948
Kuwait	Sheikh Ahmed ibn Jabir al-Subah, Ruler	1921
Lebanon	Bishara Khalil el Khuri, president of the Republic	1943
	Riad Bey es Sulh, prime minister	1946
Liberia	William V. S Tubman, president of the Republic	1944
Liechtenstein	Franz-Joseph II, Prince Regent	1938
	Alexander Frick, prime minister	1945
Luxembourg	Charlotte, Grand Duchess	1919
	Pierre Dupong, prime minister	1937
Mexico	Miguel Alemán Valdes, president of the Republic	1946
Monaco	Rainier III, Prince	1949
Mongolia	Bumatsende, chairman of the presidium of the Little Hural	1940
	Marshal Choibalsan, prime minister	1935
Morocco	Mohammed ben Yussef III, Sultan	1927
	General Alphonse Juin, French resident general	1947
Nepal	Tribhubana Bir Bikram Jung Bahadur, King	1911
	General Sir Mohan Shumshere Jung Bahadur Rana, prime minister	1948
Netherlands	Juliana, Queen	1948
	Willem Drees, prime minister	1948
New Zealand	Sir Bernard Freyberg, governor general	1946
	Sidney George Holland, prime minister	1949
Nicaragua	Victor Manuel Román y Reyes, president of the Republic	1947
Norway	Haakon VII, King	1905
	Einar Gerhardsen, prime minister	1945
Oman (Masqat)	Said Ibn Taimur, Sultan	1932
Pakistan	Khwaja Nazimuddin, governor general	1948
	Liaquat Ali Khan, prime minister	1947
Panama	Arnulfo Arias Madrid, president of the Republic	1949
Paraguay	Federico Chaves, president of the Republic	1949
Persia	Mohammad Riza Pahlavi, Shahanshah	1941
	Mohammad Saed Maragheh, prime minister	1948
Peru	General Manuel A. Odria, president of the Republic	1948
Philippines	Elpidio Quirino, president of the Republic	1948
Poland	Bolesław Bierut, president of the Republic	1947
	Józef Cyrankiewicz, prime minister	1947
Portugal	Marshal António Oscar de Fragoso Carmona, president of the Republic	1928
	António de Oliveira Salazar, prime minister	1932
Qatar	Sheikh Abdullah ibn-Jasim al-Thani, Ruler	1913
Rumania	Constantin Parhon, chairman of the presidium of the Grand National Assembly	1948
	Petre Groza, prime minister	1945
Salvador, El	Major Oscar Bolaños, Humberto Costa — Leaders of the temporary Junta	1948
South Africa	Gideon Brand van Zyl, governor general	1946
	Daniel François Malan, prime minister	1948
Southern Rhodesia	Sir John Noble Kennedy, Governor	1946
	Sir Godfrey Huggins, prime minister	1933
Spain	General Francisco Franco y Bahamonde, chief of state	1938
Sweden	Gustaf V, King	1907
	Tage Fritiof Erlander, prime minister	1946
Switzerland	Max Petitpierre, president of the Confederation	1950
	Eduard von Steiger, vice-president of the Federal Council	1950
Syria	Hashem Bey Atassi, president of the Republic	1949
	Khalid el-Azam, prime minister	1949
Thailand	Phumiphon Adundet, King	1946
	Marshal Luang Pibul Songgram, prime minister	1948
Tibet	14th Dalai Lama (Lhamo Dhondup), Ruler	1940
	Yung Tseng Dala, Regent	1940
Tunisia	Mohammed el-Amin, Bey	1943
	Jean Mons, French resident general	1947
Turkey	Ismet Inönü, president of the Republic	1938
	Şemsettin Günaltay, prime minister	1949
Union of Soviet Socialist Republics	Nikolay Mikhailovich Shvernik, Chairman of the presidium of the Supreme Soviet	1946
	Joseph Vissarionovich Stalin, chairman of the Council of Ministers	1941
United States	Harry S Truman, president	1945
Uruguay	Luis Batlle Berres, president of the Republic	1947
Vatican City	Pius XII, Pope	1939
Venezuela	Carlos Delgado Chalbaud, provisional president	1948
Yemen	Imam Ahmed ibn Yahya Nasir li-Din Allah, Ruler	1948
Yugoslavia	Ivan Ribar, chairman of the presidium of the People's Assembly	1945
	Marshal Josip Broz (Tito), prime minister	1944
Zanzibar	Khalifa bin Harub, Sultan	1911
	Sir Vincent Glenday, British resident	1946

SOVIET UNION: *see* Union of Soviet Socialist Republics.

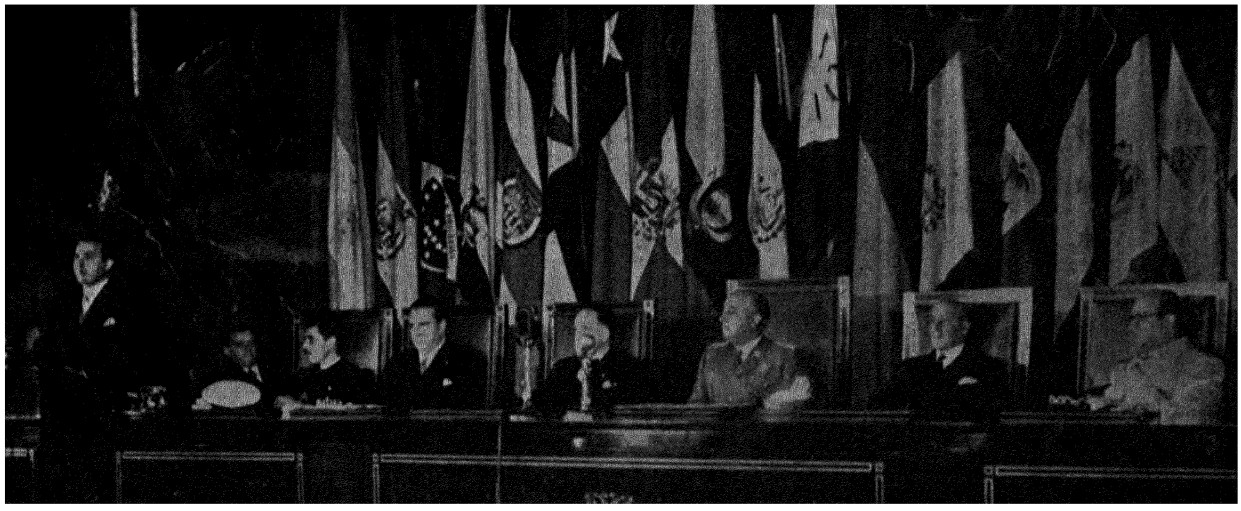
SPAAK, PAUL-HENRI, Belgian statesman (b. Brussels, Jan. 25, 1899). (For his early career see *Britannica Book of the Year 1949.*)

Prime minister of a government formed from a Christian Social and Socialist coalition from March 19, 1947, he resigned after the election of June 26, 1949 (*see* Belgium). After the formation of a Christian Social and Liberal coalition government by Gaston Eyskens (*q.v.*) on Aug. 10, the following day Spaak was appointed minister of state by the regent. Also on Aug. 11, at Strasbourg, he was elected president of the first consultative assembly of the Council of Europe. On Aug. 16, in Paris, he was succeeded as chairman of the O.E.E.C. by Paul van Zeeland (*q v.*).

SPAIN. A country of southwestern Europe, bounded on the N. by the Bay of Biscay and France, on the W. by the Atlantic and Portugal, and on the S. and E. by the Mediterranean. Area: 194,945 sq. mi., including Balearic (1,936 sq. mi.) and Canary (2,804 sq. mi.) Islands. Pop.: (1940 census) 25,877,971 (Dec. 31, 1948 est.) 28,154,332 including Balearic (1940 census, 407,497) and Canary (680,294) Islands. Languages: mainly Spanish (Castilian) but Catalan, Galician and Basque are also spoken. Religion: mainly Roman Catholic. Chief towns (pop., 1947 est. if not otherwise stated): Madrid (*q.v.*) (cap., 1949 est., 1,440,041); Barcelona (1949 est. 1,500,000); Valencia (562,967); Seville (382,013); Zaragoza or Saragossa (292,965); Malaga (277,582); Murcia (226,702); Bilbao (220,333). Leader (*Caudillo*), chief of state and prime minister, General Francisco Franco y Bahamonde (*q.v.*); minister of foreign affairs, Don Alberto Martin Artajo.

History. In a press interview at the end of Jan. 1949, General Franco spoke of the United Nations as having been born in an atmosphere of passion and as having "employed Spain as a means of paying out appeasement money to the aggressors of the future." Until the international climate became more propitious, Spain was not interested in whether or not it was admitted to membership. Although a share in the European Recovery programme would naturally be welcome, it had made no approaches whatever in this sense, either direct or indirect, to the United States. Gibraltar, though now of little military value, would always, while it remained British, constitute a shadow in Anglo-Spanish relations. General Franco would make no statement about the prospect for a restoration of the monarchy and held out scant hope of an early return to parliamentary democracy.

The U.N. Security council approved on April 28 an Australian resolution for the appointment of a sub-committee to inquire into the complaint that the Franco regime had led to international friction and was a threat to international peace and security and to suggest practical measures for ending it: Australia, Brazil, China, France and Poland were chosen. In May a motion to restore to member states of the U.N. full freedom of action in their diplomatic relations with Spain was carried in the political committee by 25 votes (chiefly Latin American and Arab) to 16, with 16 abstentions but failed by four votes to get the necessary two-thirds majority in the full assembly, where the voting was 26 to 15, again with 16 abstentions, among them Great Britain, France and the U.S. The consulates general in Barcelona of Brazil, Peru and Bolivia, the three states which, with Colombia, had tabled the resolution, were simultaneously damaged by bombs on May 15. A Polish resolution proposing sanctions was lost by 6 votes to 40, 7 abstaining. Diplomatic relations between Spain and Venezuela had been renewed in April, when notes to the same purpose were exchanged with Liberia.



General Franco (centre in light uniform) at a session of the Institute of Hispanic Culture in Madrid on Oct. 12, 1949, on the anniversary of the landing of Christopher Columbus at San Salvador in 1492. Oct 12 is celebrated as the Feast of the Hispanic Race.

On May 18, in a long opening address to the third legislative session of the Cortes in Madrid, General Franco accused Great Britain of having failed to keep promises made to Spain in 1941 that after the war she would further Spanish territorial claims in North Africa at the expense of France, and also alleged an Anglo-American intention in 1944 to open the second front in the Iberian peninsula, which was only defeated by "Soviet realism." General Franco stated that he was not greatly interested in the countries of Europe, which were driving Spaniards "in the direction where our heart impels us—to Hispano-America." But, "if our hearts lead us towards Spanish America, the force of reality impels us towards North America."

Authorized by the State Department in May to negotiate directly with the Export-Import bank for a government loan, Spain, represented by Andrés Moreno, director of the Banco Hispano-Americano, was reported to have asked in Washington for $1,250 million, or $400 million more than the bank's entire Treasury assets. The application was refused. President Truman said on June 2 that he did not favour a loan and, on July 14, with reference to a congress proposal to lend Spain $50 million of European Recovery programme funds, that "the U.S. was not on friendly terms with Spain." Dean Acheson, secretary of state, gave his opinion that Spain was "a poor credit risk." Earlier, in February, the Chase National bank of New York had granted a short term loan of $25 million, the first substantial credit advanced to Spain by a U.S. commercial bank for many years. Four-fifths of the loan was to go to buying the U.S. out of the Spanish telephone system.

A resolution calling on all affiliated organizations of the new International Confederation of Free Trade Unions to support the efforts of democratic and anti-totalitarian forces in Spain to end the Franco regime was approved unanimously at the confederation's first congress in London in December. The congress was opposed to the granting in the meantime of any assistance to Spain.

General Franco made his first state journey abroad when he visited Portugal for five days in October. (Marshal Carmona's visit to Spain in 1929 was to have been returned by King Alfonso in 1931: the fall of the monarchy in April of that year made this impossible.) The programme included military manoeuvres at Mafra and the conferring of an honorary degree at Coimbra. A meeting arranged with Don Juan, pretender to the Spanish throne, who was living in Portugal, did not take place, and reports spoke of a rupture. The Spanish government had been consulted by Portugal in March concerning the invitation to the latter to adhere to the North Atlantic treaty, such consultation being called for by the treaty of friendship and non-agression of 1939 and the protocol to this of 1940, and had intimated that it raised no objection. King Abdullah of Jordan paid a fortnight's visit to Spain in September. An official statement issued jointly by the foreign ministers of the two countries at the conclusion of the visit recorded complete agreement on the seriousness of the menace of Communism to world peace.

The statutes of the Council of the Kingdom created by the law of succession of July 26, 1947, were published by decree on Jan. 1. This supreme consultative body of 14 members—seven *ex-officio* (the president of the Cortes, the senior prelate in the Cortes, the senior captain general, the senior general in the *Alto Estado Mayor* of the forces, the president of the Council of State, the president of the Supreme Tribunal of Justice and the president of the Institute of Spain), four elected by the Cortes and three nominated by the chief of state, with the president of the Cortes as chairman—was to advise the chief of state in major matters of his exclusive competence such as the declaration of war or making of peace, the choice of a successor as head of the state, abdication of any kind, royal marriages and the depriving of royal personages of any rights of succession on grounds of lack of capacity or "notorious deviation from the fundamental principles of the state." On Feb. 28, anniversary of the death of Alfonso XIII in 1941, General Franco and his cabinet attended the official mass for Spanish royalty at the Escorial, whose monastery houses the royal pantheon.

In June, against a worsening economic background, he made a two weeks' tour of Catalonia; reports stated that he was seeking the co-operation of Catalan industrialists. A bomb explosion in Barcelona cathedral during the service attended by his wife and daughter caused no casualities. Elections for the provincial *diputaciones* were held on March 20, candidates being chosen partly from representatives of the town councils, partly from economic, cultural and professional corporations. New facilities for crossing the frontier with Gibraltar were announced in May.

Spain's internal economy suffered greatly from a drought even more severe than those of the two previous years, householders and public services being among those affected by the repeated and prolonged water and electricity cuts.

Catalan industry was particularly handicapped by the hydro-electric shortages, as too by reduced imports of raw cotton and other materials. Lack of fertilizers and tractors combined with the drought to weigh heavily on agriculture, the grain harvest falling short of consumption needs by 1·5 million tons. In the Canary Islands the summer was marked by a series of severe volcanic eruptions on La Palma. Streams of lava, which formed a substantial promontory in the sea, cut off an area in the south of the island and caused several villages to be evacuated. The shocks continued for six weeks, as many as 80 tremors being registered in one day.

National expenditure for 1950 was estimated in November at P. 17,941 million and revenue at P. 17,848 million. The raising of a loan was authorized to cover the deficit of P. 93 million. In a press interview General Franco stated that Spain's internal economic needs were not great but that assistance was necessary for defence purposes. The first entirely Spanish-built transport aircraft made its trial flight in March in the presence of the air minister, General E. G. Gallarza. A new type of "articulated train," the invention of a Basque military engineer, Alejandro Goicoechea, was on test during the summer after undergoing preliminary trials in the U.S. Normal speeds of 62 mi. per hr. and over were claimed for it.

The United Kingdom was again Spain's best customer. During the first quarter of the year visible trade between the U.K. and Spain and its possessions totalled over £15·5 million, with a balance of nearly £9 million in favour of Spain. A new one-year trade programme between the two countries concluded in June envisaged some increase in value and an easing of conditions. Acceleration in the import of U.K. manufactured goods and in financial debt transfers was announced in December after further discussions of outstanding trading difficulties. An agreement was signed with Benelux countries in April for a trade exchange totalling some B.Fr. 1,500 million, Spain to receive electrical plant, rolling stock and heavy industrial equipment against Spanish manufactured goods and other products. A trade treaty was also concluded with Denmark in May; and in June the trade and payments agreement with France was renewed for a further year, French exports to include coal, phosphates, rolling stock and electrical plant. Following on the devaluation of sterling, Spain decided in October to maintain its parity with the $ at P.10·95, this giving a new rate of P.30·65 to the £ instead of 44·13.

Health department statistics published in March showed an increase in the population of Spain by almost 10 million since 1800 and of 2·2 million since 1940. Continuance of the latter rate of increase, which was due both to a rising birth-rate and to a notable improvement in the expectation of life, would show by 1957 a population more than double the 15·5 million recorded in the first full census of 1857.

The Republican "government in exile" was reconstituted in February, the "prime minister" being Alvaro de Albornoz; the "president of the republic" was Martínez Barrio.

Among eminent Spaniards who died during 1949 were Santiago Alba, Liberal statesman under the monarchy and sometime president of the Cortes under the republic; Niceto Alcalá Zamora (*see* OBITUARIES), president of the republic from 1931 to 1936; Alejandro Lerroux (*see* OBITUARIES), radical leader and four times premier of the republic; Joaquín Turina (*see* OBITUARIES), the composer; and the painter Federico Beltrán Masés. (W. C. AN.)

Education. State schools (1946-47) 54,055, pupils 4,359,230, teachers 55,077; secondary schools (1947) 118, pupils 203,136; training colleges for elementary teachers (1947) 53, students 25,928; universities (1947) 12, students 42,597, professors and lecturers about 3,000. Illiteracy (1947): 20·8%.

Agriculture and Fisheries. Main crops (in '000 metric tons, 1948): wheat 3,266; barley 1,742; oats 550; rye 508; maize 560; potatoes 3,000; rice 272, cottonseed 12; sugar, raw value, 265; cotton, ginned, 6; wool on greasy basis, 35; tobacco (leaf) 13·8. Olives (in '000 metric tons, 1946) 2,070. Oranges and lemons (in '000 metric tons, 1947) 876. Livestock (in '000 head, 1947): cattle 3,100; sheep 24,120; pigs 5,000; horses 600; mules 1,080; asses 800, goats 6,100; fowls (1945) 22,876. Fisheries, total catch (1947): weight 567,841 metric tons, value P.2,032 million. Production (1948), wine (in hectolitres) 14,200,000; olive oil (in metric tons, 1947) 362,900

Industry. Fuel and power (1948; 1949, six months, in brackets): coal (in '000 metric tons) 10,410 (5,308); lignite 1,394 (668); manufactured gas (in '000 cu ft.) 8,257 (4,626); electricity (in million kwh.) 6,110 (2,453) Raw materials (in '000 metric tons 1948; 1949, six months, in brackets): iron ore, metal content, 1,632 (895); pig-iron 517 (287); steel ingots and castings 548, black and blister copper 8·9; lead 22·0 (14·9), zinc 21 2 (9 9). Other products (in '000 metric tons): rock salt (1947) 265, potash ore (1947) 622; cork (1946) 70; paper (1946) 165. Cement production (in '000 metric tons 1948, 1949, six months, in brackets) 1,646 (838).

Foreign Trade. (Million pesetas) Imports: (1948) 1,439, (1949, six months) 781. Exports: (1948) 1,106, (1949, six months) 735. Principal imports: wheat, machinery and vehicles, raw cotton, fuel and bananas Principal exports: oranges, tomatoes, cotton goods and iron ore and pyrites Main sources of imports Argentina, United Kingdom, Dutch colonies and United States Main destinations of exports: United Kingdom, France, United States and the Netherlands

Transport and Communications. Roads (1949) 75,000 mi. Licensed motor vehicles (Dec 1948) cars 94,654, commercial vehicles 58,187. Railways (1947) 10,920 (7,950 government owned) mi., passenger traffic (government owned lines) 109,503,212. Shipping (July 1948): number of merchant vessels of 100 tons and upwards 1,084, total tonnage 1,155,267 Air transport (1948): km flown 4,358,670, passengers flown 163,106, cargo carried 471 metric tons, air mail carried 160 metric tons Telephones (Dec 1947) 481,929.

Finance and Banking. (Million pesetas) Budget: (1947, actual) revenue 12,964, expenditure 14,223; (1948 est.) revenue 15,115, expenditure 15,196 National debt (Jan 1948) 52,953 Currency circulation (Aug 1949; in brackets Aug. 1948): 25,300 (24,700). Gold reserve (Aug 1949; in brackets Aug 1948) 85 (111) million U.S. dollars Bank deposits (June 1949; in brackets June 1948) 32,000 (29,200) Monetary unit *peseta* with an exchange rate (Dec. 1949; in brackets Dec 1948) of 30 66 (44 13) pesetas to the pound.

BIBLIOGRAPHY. John Walker, *Spain Economic and Commercial Conditions* (London, H.M.S.O., 1949)

SPANISH-AMERICAN LITERATURE. Three factors continued in 1949 to impede the fullest development of creative literature in Spanish America: (1) the high price of publishing books, greatly increased by postwar inflation; (2) political instability which had made the position of the writer insecure and in many cases had driven him into exile; (3) the increasingly evident preference of the reading public for translations of European and North American authors rather than for original works by Spanish-American writers. In spite of these discouraging facts good books continued to appear in Spanish-speaking America.

While a few of the older and established generations of novelists continued to write, 1949 saw the publication of a number of works of fiction by newer writers of diverse tendencies. Among the former, two Mexican novelists of recognized reputation produced praiseworthy works: *Sendas perdidas* by the veteran Mariano Azuela, and *Cabello de elote* by Mauricio Magadaleno, whose *Sunburst* was already known to the English-speaking world in translation. Other distinguished novels of the year included *En medio del camino de la vida*, an autobiographical tale by the Colombian essayist Germán Arciniegas; *El reino de este mundo*, a beautifully conceived novel of Haitian folklore by the Cuban author Alejo Carpentier; and Marta Brunet's poetic work, *Raíz del sueño*, which continued the Chilean novelist's tradition of fine style.

Less striking but of considerable value in tracing the complex development of the novel in Spanish-speaking countries were the following: *Fogarada*, by Enrique González Rincones, a story of the Venezuelan oil fields; *Una noche en Acapulco*, by the Mexican Rodolfo González Hurtado, in which adventure and fantasy combine in agreeable proportions; *El Holandés volador*, a whimsical treatment of an

old theme by the Chilean, Ernesto Silva Román; *La fuga de la quimera*, an imaginative tale by the prolific Mexican *littérateur*, Carlos González Peña; *Aventuras de un bracero*, an interesting account of the life of a Mexican itinerant labourer in the United States by Jesús Topete; *Evocación*, a novel of the older local colour tradition by a Venezuelan, Pedro César Dominici.

As usual, it was impossible to keep account of the hundreds of books of poetry which appeared in 1949. Two among them were of unquestioned importance: *Sonetos*, by the brilliant Mexican poet and statesman Jaime Torres Bodet, and *Poesías completas*, the collected works of the much-lauded Peruvian, César Vallejo. Colombia, long the home of famous poets, produced among many other volumes of verse an *Antología de la nueva poesia colombiana*.

Not since colonial days had the drama been a thriving genre in Spanish America, and 1949 provided no exception to the rule. Two dramas might be mentioned as indicative of tendencies: . . . *de campanario o de Macolatlán*, a three-act poetic play by a Mexican author, J. Jesús Castorena, and a volume of two plays by an older Venezuelan writer Pedro César Dominici: *El hombre que volvió* and *La casa*, both of which showed somewhat romantic and old-fashioned characteristics.

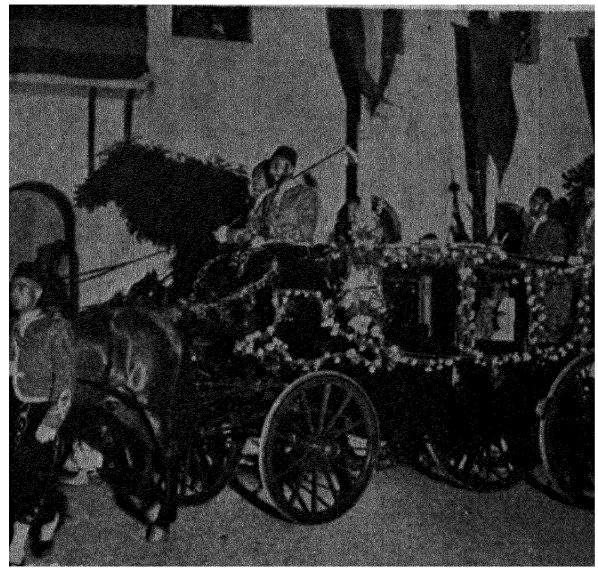
Among biographies written by Spanish American authors the following were noteworthy: *Sarmiento y su americanismo*, by the Cuban scholar Emeterio Santovenia, and *El misterioso almirante y su enigmático descubrimiento*, a new interpretation of the personality of Christopher Columbus by Carlos Brand (Venezuelan).

The year was notable for the appearance of a number of outstanding works of literary criticism, the majority of which were published in Mexico. Of superior quality was *Las corrientes literarias en la América Hispánica*, by the recently deceased Pedro Henriquez Ureña. Leopoldo Zea's *Romanticismo y positivismo* was a stimulating study of philosophical and literary trends in the 19th century.

A number of the more important literary landmarks of 1949 would be classified as essays or general works, and in them one often found Spanish-American writers at their best. Félix Lizaso's *Panorama de la cultura cubana* provided an excellent survey of a relatively unknown field. *El problema del Indio en América*, by Aída Cometta Manzoni, whose previous studies of the Indian in literature had given her authority, was an illuminating series of five essays. Vicente Sáenz's *Hispanoamérica contra el coloniaje* exemplified in a polemic vein the intense nationalism of contemporary Latin America and *El futuro de América* by an Ecuadoran, Juan Yépez de Pozo, dealt with similar themes. (J. T. R.)

SPANISH COLONIAL EMPIRE. Under this heading are grouped the Spanish possessions in Africa. Their total area is approximately 134,715 sq. mi. and the total population (1947 est.) 1,406,800. Certain essential information on the territories composing the empire is given in the table.

History. The wedding of Mulay Hassan ben el-Mehedi, the khalifa (viceroy) of the Spanish zone of Morocco, to his second cousin, daughter of the late Sultan Abdelaziz, in June 1949 was celebrated by three weeks of festivities described as on an Arabian Nights scale, that cost some 11 million pesetas. Lieutenant General Juan Varela, the Spanish high commissioner, presented the khalifa with a cheque for one million pesetas from General Franco. The khalifa and General Varela travelled to Granada in September to meet King Abdullah of Jordan, who placed on record his appreciation of Spain's conduct of affairs in Morocco. Among the bases of Spanish policy, as enumerated by General Franco in his speech to the Madrid Cortes in May, were " friendship and affection " for the Arab peoples. The Spanish government placed a number of aircraft at the disposal of Moslems for their pilgrimage to Mecca. (W. C. An.)



Princess Lal-La Fatima in her carriage in Tetuan in June 1949, when she married Mulay Hassan ben el-Mehedi, khalifa of Spanish Morocco.

SPANISH LITERATURE. Though some of the best critical work of the year came from Spaniards living

SPANISH COLONIAL EMPIRE

Country	*Area* (in sq. mi.)	*Population* (1947 est.)	*Capital and Status*	*Foreign Trade*	*Transport and Communications*	*Budget*
SPANISH MOROCCO	17,631	1,009,800 (incl. 62,438 Spaniards and 14,734 Jews)	Tetuan; protectorate. High commissioner, General Juan Varela; Khalifa (viceroy of the sultan of Morocco), Mulay Hassan ben el-Mehedi	(all possessions, in gold pesetas)	Roads *c.* 500 mi. railway 80 mi. shipping (1943) entered 307,379 N.R.T.	rev. and exp.: (1938) 111 million pesetas (1947) 211 million pesetas
CEUTA, MELILLA, ALHUCEMAS, CHAFARINAS and PENON DE VELEZ	82	145,000	Administered as part of Spain	(1945) imp. 125,383,000 exp. 197,736,000	—	—
IFNI TERRITORY	741	35,000	Administered as part of Spain	(1946) imp. 150,307,000 exp. 217,379,000	—	—
SPANISH SAHARA: RIO DE ORO	73,362	37,000*	Cabo Juby; colony			
SEKIA EL HAMRA	32,047					
SPANISH GUINEA, including FERNANDO PO and four small islands	10,852	180,000	Santa Isabel; colony			(1943) rev. 22·3 million pes. exp. 3·6 million pes.

* Excluding the nomads.

abroad (*e.g.*, Pedro Salinas' study of *Rubén Darío*, Enrique Moreno's of *Guzmán de Alfarache* and Joaquín Casalduero's of *Don Quijote*), there was also much activity in Spain. A valuable linguistic study was M. Criado de Val's *Sintaxis del verbo español moderno*. The middle ages were represented by the first volume of Martín de Riquer's *La Lírica de los trovadores*, F. Alarcos' *Investigaciones sobre el Libro de Alexandre* and José Romeu Figueras' *El Mito de "El Comte Arnau"*. Outstanding works on the 16th century were E. Segura Covarsi's *La Canción petrarquista en la lírica español del Siglo de Oro*, Rafael Lapesa's *La Trayectoria poética de Garcilaso* and Ramón Carande's *Carlos V y sus banqueros: La Hacienda real de Castilla*. Figures in the Romantic era who received full-length studies were La Avellaneda (M. Ballesteros), Nicomedes Pastor Díaz (E. Chao Espina), Gregorio Romero Larrañaga (J. L. Varela) and Vital Aza (N. Alonso Cortés). Of the moderns, Federico García Lorca was the subject of a monograph by G. Díaz-Plaja, and R. Gullón and J. M. Blecua wrote on *La Poesía de Jorge Guillén*. Two notable events in Madrid were the compilation of a series of "Homenaje" volumes celebrating the 80th birthday of Ramón Menéndez Pidal, and the foundation of the Instituto de Humanidades by José Ortega Gasset and Julián Marías: a course given there by the latter was published as *El Método histórico de las generaciones*. The *Revista de Occidente* published a comprehensive *Diccionario de literatura española*. Criticism suffered a double loss in the deaths of Antonio Ballesteros Beretta and Ángel González Palencia.

Foremost among the year's novels were S. J. Arbó's *Sobre las piedras grises*, awarded the Premio Nadal, J. A. de Zunzunegui's *La Ulcera* (Premio Nacional de Literatura), the late Benjamin Jarnés' *Eufrosina*, Enrique Azcoaga's *El Empleado* and the *Doña Juana la Loca y otras seis novelas superhistóricas* of Ramón Gómez de la Serna, who had recently returned to Spain. Collections of verse included Leopoldo Panero's *Escrito a cada instante*, Luis Rosales' *La Casa encendida*, Leopoldo de Luis' *Los Imposibles Pájaros* and José María Valverde's *La Espera*. The 1949 Premio Lope de Vega for drama was awarded to Antonio Buero for his *Historia de una escalera*. Notable new literary reviews were *Alcántara* (Extremadura), *Alma* (Madrid) and *Proel* (Santander). Literary men recently elected to the Spanish Academy of the Language were Vicente Aleixandre and Salvador González Anaya. (E. A. P.)

SPEEDWAY RACING. The attendance of over 12 million people made the 1949 season the most successful in the 21 years of the third most popular sport in Great Britain. Betting was not permitted at speedway meetings and it was considered to be the greatest family sport in the world.

The world individual championship was won for the first time by an Englishman when Tommy Price (Wembley) finished ahead of Jack Parker and Louis Lawson (both of Belle Vue, Manchester). Australia, whose team did not appear sufficiently strong at the beginning of the season to provide formidable opposition for England, created a surprise by winning the test series by four matches to one.

The national league, the major team competition, divided into three sections, was won by Wembley (division I), Bristol (division II) and Hanley, Stoke-on-Trent (division III). The national trophy competition was won by Belle Vue, who defeated West Ham in the final. The London cup was retained by the Wembley Lions. Jack Parker, captain of the England team, successfully defeated all opponents to keep his title of match race champion. (G. J. WK.)

SPICES. *Pepper* spices during 1949 reflected the scarcity of this commodity in the world markets. Prices at Rotterdam, London and New York city ranged up to $1·42 per pound for black pepper and $2·40 per pound for white pepper. Supplies from Indonesia, normally the largest source, continued to be shut off, but India, with a larger crop than usual, maintained a well-exploited monopoly and in November raised the export tax to about 12 cents per pound. Imitation pepper made by grinding grain with cayenne and esculent oils reappeared on the market to ease the situation.

The United States and Canada reported good harvests of *mustard* seed, while European production was reduced to make more land available for the planting of root crops and cereals. China did not report its crop, which at times had exceeded 11 million lb. from provinces which had fallen under Communist control.

Dry weather and labour problems shortened production of *ginger* and caused prices to rise 350% above normal; plans were laid for larger plantings in Jamaica, Sierra Leone, India and Nigeria, the principal sources of supply.

Batavia (Jakarta), Korintje and Saigon varieties of *cassia* (*cinnamon*) were obtainable from Indonesia and Indo-China despite continued warfare during 1949. In China the harvesting of the different varieties of cassia continued, distribution being effected through Hong Kong.

Madagascar and Zanzibar *cloves* were available during the year but shipments were smaller because of unfavourable conditions. Prices exceeded those of 1948. Shipments of *nutmegs* and *mace* from East Indian islands were uninterrupted. A fine crop in Grenada (British West Indies) balanced supply with demand.

Production of *red peppers* (chillies) was less than normal and prices were high. The scarlet Hontaka and Takanotsume pods reappeared from Japan, at prices up fourfold. Cayenne from Africa sold at high prices as did Mexican "Anchos" for "chile con carne." Yugoslavia and Chile exported fine-quality paprika, supplementing Spanish and Portuguese supplies, and prices were moderate.

The world supply of *herbs* was affected by political disturbances in Europe, principally in Yugoslavia, the source of the preferred sage (*Salvia officinalis*). Bay leaves proved scarce, satisfactory quality (*laurus nobilis*) being obtainable only from Greece, where the crop was neglected.

Supplies of caraway, poppy, dill, coriander and cummin seeds were available from Europe and North Africa. Sesame had become a successful crop in Nicaragua.

Saffron, the world's most costly spice, dropped from the usual range of from $45 to $75 per pound to $17 per pound on the Spanish market. The stigmas of the saffron flower, hand removed from about 75,000 blossoms, constitute a pound. This spice is very popular in the cooking of certain Spanish dishes. (C. A. T.)

SPIRITS. The figures for production and export of French Cognac brandy in 1948-49 were the highest since World War II. Production season was equivalent to 115,000 hectolitres of pure alcohol compared with 95,000 hectolitres in the previous season. Exports of Cognac were 34,816 hectolitres during the first six months of 1949 compared with 23,203 hectolitres in the same period in 1948.

In Great Britain the production of potable spirits again increased and was slightly above the 1938 figure.

TABLE I.—PRODUCTION, EXPORT AND CONSUMPTION OF SPIRITS IN GREAT BRITAIN (million proof gal.)

Year	Production	Export	Consumption
1938	29·28	9·12	10·32
1947-48*	23 31	8·89	9 74
1948-49*	30 33	8·97	9·06

* Years ending Aug 31

Increased releases of grain resulted in increased distilling of whisky but the industry suffered from a shortage of sherry

casks for maturing. Whisky stocks which had become depleted during World War II approached their prewar level. Devaluation of the pound sterling had little effect on export of whisky as most of the available mature stocks were already being exported. Exports of spirits to most countries increased slightly during the year, exceptions being Canada and the Argentine.

Imports of brandy and rum by Great Britain were both 10% greater than in 1948. In the case of brandy 90% of the imports were from France as against 70% in the previous year, there being a drop in imports from the Commonwealth. The Ministry of Food issued a Code of Practice for brandy during the year. Imports commenced again of aquavit, the national spirit of Norway, matured by storage on board ship during a round trip to the Antipodes.

In France the importance of sugarbeet as a source of half the production of industrial alcohol was reflected in the publication of vol. I of *Traité de la Distillerie de Betterave* (Paris 1948). In Great Britain the production of industrial alcohol was lower than in 1948.

TABLE II.—PRODUCTION AND CONSUMPTION OF INDUSTRIAL ALCOHOL IN GREAT BRITAIN (million proof gal.)

Year	Production (including industrial methylated spirits)	Consumption
1947-48*	39·06	51·93
1948-49*	36·81	46·27

* Years ending Aug. 31

There was a drop in the quantity of molasses imported in spite of a big fall in price at the end of 1948. During the year controls on industrial alcohol and related materials were removed after having operated for nearly ten years.

Although Great Britain did not produce alcohol from petroleum, contrasting with the United States which obtained 40% of its alcohol from this source, four major industrial enterprises developed plans for the manufacture of chemicals from petroleum and it would be a short step to produce synthetic alcohol if it became an economic proposition.

In India the government went ahead with its plans to produce power alcohol from accumulated supplies of molasses. Arrangements were made for the Nasik distillery in Bombay to make one million gallons of power alcohol annually after a prohibition of alcoholic liquor proposed for the state in April 1950. Pakistan started to build what was to be the largest alcohol production plant in Asia. Syria began the manufacture of alcohol from sugar refinery residues. In Australia a company was formed to manufacture chemicals, including cellulose acetate based on alcohol as a raw material. (D. I. C.)

United States. The production of all types of distilled spirits in the United States reached 266,542,499 proof gallons in the fiscal year which ended June 30, 1949, an increase of more than 20 million gal. from the previous year's total of 244,127,343 million proof gal. Whisky production, accounting for the bulk of all distilled spirits produced in the U.S., jumped considerably above the total of the 1948 fiscal year—149·6 million proof gal., as contrasted with 129·6 million gal. in 1948. The remainder of distilled spirits manufacture, gin, rum, brandy and other spirits, together represented 40% of the total.

Withdrawals of distilled spirits from distilleries and warehouses dropped from 161·7 million proof gal. in the 1948 fiscal year, to 153·5 million proof gal. for the year ended June 30, 1949—a decrease of about 5%.

In June 1949, U.S. whisky inventories stood at about 511 million proof gal., or well over the 425 million proof gal. average for "normal" years. However, the supply was far from adequate, for only 23 million gal., or less than 5% of the total, were composed of sufficiently matured whisky (four years or older).

During 1948-49 there was an increase in moonshining (illicit distilling). In the calendar year 1948, 7,552 illegal stills were seized by agents of the Alcohol Tax unit—an increase of more than 25% from the previous year's total. The total for the fiscal year ending June 30, 1949 indicated a similarly rising total—8,008 stills seized having a daily producing capacity of 224,888 proof gal., as against 6,757 (with a daily capacity of 173,087 proof gal.) during the fiscal year 1948.

The demand for distilled spirits underwent a gradual process of change in 1949 and there was an increasing preference for straight and bonded whisky rather than blends. Blended whisky totals declined. From January-June, 1948, the total number of blended gallons available for consumption was 53·8 million—the same period in 1949 saw a decrease in output to 51·5 million gal.

The years 1947 and 1948 marked the change from a seller's to a buyer's market, with stocks readily available. For the first eight months of 1949, total distilled spirits imports equalled 8,788,823 wine gal., with whisky accounting for more than 7 million gal. (A. J. Li.)

SQUASH RACKETS. M. E. Karim (Egypt), who retained the open championship, and N. F. Borrett, who won the amateur championship for the third time, were the outstanding players of the 1948-49 season. The runner-up in both open and amateur championships was B. C. Phillips. Miss P. J. Curry won the women's championship for the third time. The professional championship was won by A. E. Biddle.

In men's international matches England beat Ireland, Scotland and Denmark; Scotland beat Wales, and Ireland beat Scotland. In women's internationals England beat Scotland and Wales; Wales beat Scotland. Surrey won both the men's and women's county championships. Oxford beat Cambridge in the university match, and the Army won the inter-services championship. Lancing Old Boys beat Old Tonbridgians in the Londonderry cup. The junior championship (Drysdale cup) was won by M. G. Case. (J. F. B.)

United States. Hunter Lott, Jr., of the Merion Cricket club, Pennsylvania, won the national singles squash rackets championship by defeating Donald Strachan of the Princeton club of New York. Lott combined with G. Diehl Mateer, Jr., another Merion representative, to win the doubles. George Waring, Boston, Massachusetts, retained the veterans' singles title, and the intercollegiate crown was retained by Mateer, who represented Haverford college, Philadelphia.

U.S. representatives won the Grant trophy, but the Lapham trophy was returned to Canada when the dominion team won 7—3. A strong British women's team visited the U.S. Janet Morgan, Surrey, won the national singles championship, and the doubles with Mrs. R. J. Teague, Devonshire. Miss Morgan also won the New England States title. The U.S. women's team however, regained the Wolfe-Noel Cup. Betty Howe, New Haven, Connecticut, won the Atlantic Coast, Pennsylvania, New York state and Connecticut state women's championships. (T. V. H.)

STALIN (DJUGASHVILI), JOSEPH VISSARIONOVICH, Soviet statesman (b. Gori, Georgia, Dec. 21, 1879), secretary general of the V.K.P. (Vsesoyuznaya Komunisticheskaya Partia, or All-Union Communist party) from April 3, 1922, and prime minister of the U.S.S.R. from May 6, 1941. (For his early career see *Encyclopædia Britannica* and *Britannica Book of the Year 1949*).

On Jan. 30, 1949, Marshal Stalin published his answer to four questions put to him by a U.S. news agency. He said that the Soviet government was prepared to consider the publication of a joint Soviet-U.S. declaration that the two governments had no intention of resorting to war against

each other; that the U.S.S.R. was prepared to take measures towards gradual disarmament; that the U.S.S.R. saw no obstacles to the lifting of transport restrictions between Berlin and the western zones of Germany provided the U.S., Great Britain and France simultaneously removed transport and trade restrictions between the western and the Soviet zones, pending a meeting of the Council of Foreign Ministers to consider the German problem; and that he was ready to meet President Harry S. Truman to discuss these matters. On July 18 he received Sir David Kelly, the new British ambassador to the U.S.S.R., and on Aug. 15, Vice Admiral Alan G. Kirk, the new U.S. ambassador. On Oct. 13 he sent a message to Wilhelm Pieck, president, and Otto Grotewohl, prime minister of the German Democratic republic, in which he expressed the opinion that the German and Soviet peoples possessed "the greatest potential in Europe for accomplishing great actions of world importance." On Dec. 21, his 70th birthday was celebrated throughout the U.S.S.R. and the Soviet-dominated states with extraordinary pomp and circumstance. He was awarded the Order of Lenin for the second time. (He received it for the first time in 1939, on his 60th birthday).

STEEL: *see* IRON AND STEEL.

STIKKER, DIRK UIPKO, Dutch businessman and statesman (b. Winschoten, Groningen province, Feb. 5, 1897), educated at the University of Groningen, he started his business career as manager of a bank at Leyden and later at Haarlem. From 1935-48 he was the managing director of a brewery company and member of the board of the Société Internationale de Brasserie, Brussels. In 1946 he founded and was elected chairman of the People's (Liberal) Party for Freedom which gained six seats in the Second (Lower) Chamber at the elections of May 17, 1946, and—having merged in Jan. 1948 with the Democratic People's party—eight at the elections of July 7, 1948. He was elected a member of the First (Upper) chamber on July 8. He joined as minister of foreign affairs the Willem Drees cabinet formed on Aug. 6. On April 4, 1949, he signed the North Atlantic treaty for the Netherlands and said that the signing marked "the end of an illusion—that the United Nations would by themselves ensure international peace." Although a former critic of the government's policy of negotiating with the Indonesians, during 1949 he worked hard for a lasting agreement with them.

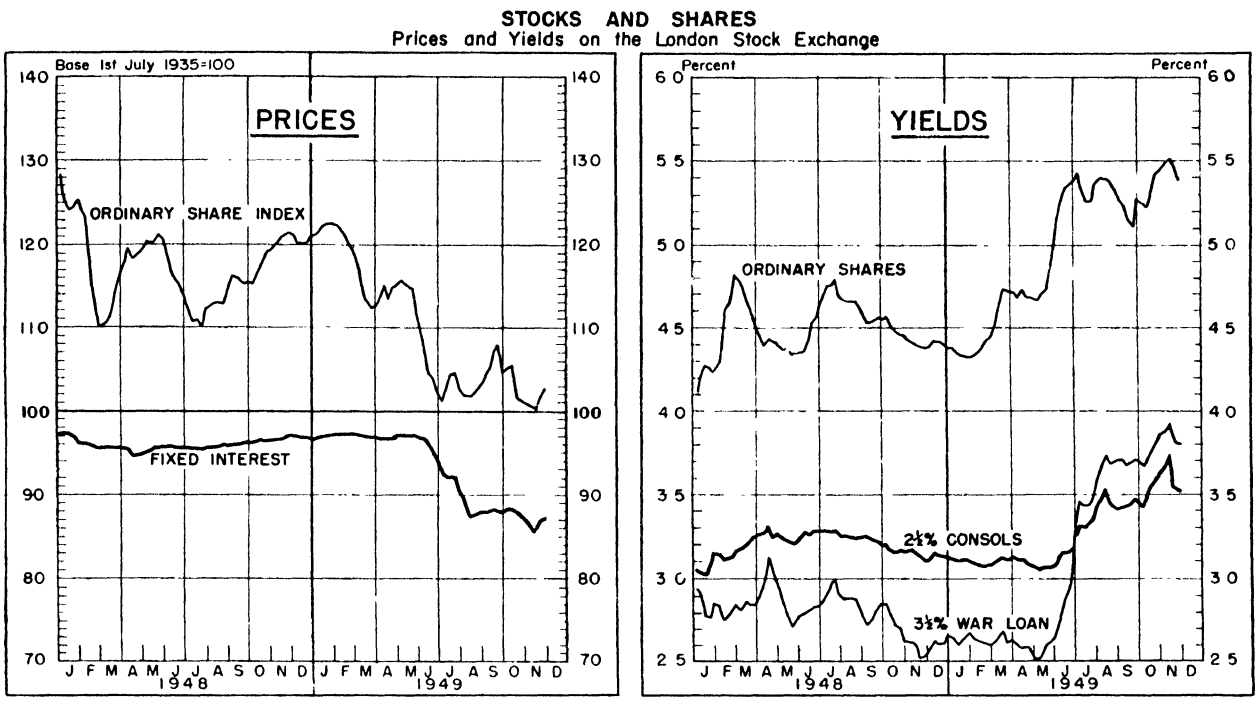
STOCKS AND SHARES. By far the most important event of the stock market world in 1949 was the devaluation of the pound. Although this did not take place until Sept. 18, the circumstances leading to devaluation could be clearly seen at work for the greater part of the year and frequently gave rise to rumours that devaluation was about to take place. It was not over-stating the matter therefore to say that stock markets, almost throughout 1949, were under the influence of the possibilities of devaluation.

Nowhere could the shadow, and the final substance, of devaluation be seen more clearly than in the gold-mining share section of the stock exchange. Since the official U.S. price of gold remained at $35 an ounce, the effect of lowering the value of the £ from $4·03 to $2·80 was to raise the price of gold in terms of sterling; the actual increase arising out of this devaluation was from a price of £8 12*s.* 3*d.* to £12 8*s.* a fine ounce. Sterling producers of gold, such as South African, west African and Australian mines therefore stood to gain enormous advantages from devaluation, provided that the higher cost of machinery and stores imported from dollar areas and increased labour costs did not offset the addition to the revenue of the mines. It may be recalled that at the end of 1948 the *Financial Times* gold mines index had fallen to 94 67, its lowest since July 1932, mainly for the reason that the price of gold had remained virtually stationary, while because of the world-wide inflation costs had mounted enormously. This downward trend was not reversed until March 1949. After that month (as can be seen from the accompanying table of the monthly high and low points of the *Financial Times* indices) the index advanced more or less without a break until following the Sept. 18 devaluation it achieved a new and substantially higher level, closing 1949 approximately 40% higher than in Jan. 1949.

On the other hand, devaluation and the factors leading up to it had a depressing effect on the other principal classes of securities quoted on the stock exchange. At every mention of the word devaluation, the prices of British government and kindred securities wilted. To the investor's mind the subjects of the gold and foreign exchange holdings and confidence in the government (and, therefore, in its securities) were closely inter-related. Adverse trade figures, implying a drain upon gold and dollar resources, were likely to produce an adverse trend in government securities It was therefore hardly surprising that in a year of dollar crisis, with gold draining away from the country, there should have been a substantial recession in British government securities, which touched the lowest levels since 1939. The fall amounted to 7%; until the government broker dramatically reversed the downward trend on Nov. 11, it was more than 10% Such percentages represented immense falls in total money values, probably to the extent of £1,000 million in British government securities alone. As the year closed, the effects of devaluation were tending to improve the external balance of trade and the gold and foreign exchange reserves of the country This was reflected in firmer markets for British government securities.

At one time during the "fall" it was possible to secure from a British government security (4% consols) a flat yield of 4%. This landmark itself brought many investors into the market; but there was no doubt that the government intervention—"to squeeze the bears," in the words of Sir Stafford Cripps, the chancellor of the exchequer—was the main influence in restoring some semblance of order and confidence into the market. This made it possible for the government to undertake with fair success the conversion of the £787 million of 1¾% exchequer bonds—which were to mature on Feb. 15, 1950—into 2¼% exchequer bonds, due for repayment in 1955. The return of the government to the market naturally raised the question as to whether the policy of allowing prices and yields to find their own levels had been abandoned in favour of a return to the cheap money policy through government control of the market. But as yet there appeared to be no evidence of anything but a desire to restore the market to an even keel, partly because of the psychological importance of the market in the nation's affairs and partly to warn those who might have been taking liberties with the price structure by selling short.

The steady rise throughout the year in yields of British government securities would, in normal circumstances, have tended to raise yields and depress prices of industrial shares quite irrespective of other influences. The yield on 2½% consols advanced from 3·13% to about 3·5%, but the parallel movement in the yield of industrial ordinary shares was of greater proportions, from 4 38% to 5·20%. Financially, United Kingdom industrial companies continued to prosper, although, so far as public companies were concerned, results had been less uniformly favourable. Such cuts as had been made in expenditure following devaluation had so far had little effect and full employment continued. Nevertheless, spending power had varied at different times of the year—especially in highly taxed luxury industries, such as entertainment and brewing—and the growth of savings withdrawals



had been a disquieting feature Despite this not entirely unfavourable background, the " bear market," which began in industrial ordinary share prices at the beginning of 1947, persisted in 1949 and was in fact accelerated While the falls in 1947 and 1948 were only of the order of 5% or so, in 1949 prices fell by 12¼%. Apart from such investment influences as the problems to be faced in balancing United Kingdom external trade at a high level and the extent of the expected cut in and under the European Recovery programme, markets had to reckon with an important technical factor. The only nationalization operation undertaken during the year was in respect of the gas industry; and the amount of re-investing in industrial equities by investors who did not wish to retain the nationalization stock (3% British gas, 1990-95) was relatively small compared with previous operations of this nature.

There was, indeed, little encouragement for investors to take an optimistic view of the future of share prices. The continued austerity policy of the government and the more or less fixed nature of dividends, owing to dividend limitation, provided no incentive. Taxation was once more at a high level; indeed, it was increased by the raising of the distributed profits tax from 25% to 30% following devaluation. As the year ended, a brighter atmosphere developed, which is not unusual at that season. This was partly a reflection of the reluctance of investors to sell and the consequent market shortage of stock. (A. L. W. S.)

The U S. stock market of 1949 was inactive in volume of trading, unusually steady throughout the year as to the average price level and extraordinarily unresponsive to either good or bad news Alternate bear and bull movements—only two in number, involving a bear market during the first half of the year and a moderate recovery during the second half—were unusually small in extent. For 90 stocks combined, representing the railroad, industrial and public utility groups, the December average price level stood at 131 6, as compared with 121 9 for January, and with 120 6 and 117·7 for December and January of 1948. Briefly summarized, the 1949 price level seemed to indicate a slight bear market in certain groups of stocks, and a slight bull

TABLE I—MOVEMENT OF THE LONDON STOCK MARKET INDICES IN 1949
Highest and lowest monthly figures

	Price Indices						Yields % on					
	Government securities		Industrial ordinary		Gold mines		Consols		Industrial ordinary		Daily Bargains	
Month	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
Jan.	113 89	113 55	122 8	121 1	94 28	86 22	3 13	3 09	4 39	4 33	8,373	5,702
Feb	114 00	113 89	122·7	118 6	95 65	89 72	3 09	3 07	4 48	4 34	8,551	5,466
March	113 87	113 61	118 2	111 2	103 89	88 74	3 13	3 10	4 78	4 49	8,545	5,568
April	114 05	113 74	115·5	113 7	106 24	102 40	3 11	3 07	4 74	4 67	8,276	4,887
May	114 02	113 06	116 0	109 6	103 09	98 11	3 12	3 06	5 02	4 65	7,248	5 549
June	113 01	109 37	108 4	100·1	103 21	98 70	3 34	3 15	5 50	5 07	7,403	4,848
July	109 90	106 88	105 1	101 7	112 14	103·75	3 46	3 29	5 41	5·23	7,158	4,956
Aug	106·96	105 05	104 6	101 6	114 23	110·49	3 56	3·38	5 42	5 26	6,745	4,376
Sept	107 28	106 08	110 3	103 5	135 15	107 75	3 51	3 40	5 33	5 01	13,686	4,140
Oct.	107·73	103 35	106 0	100 4	138 46	129 66	3 69	3 41	5 50	5 21	10 265	5,731
Nov.	107 01	101 48	103·5	99 8	136 43	132 08	3 80	3 41	5 54	5 34	7,400	5,224
Dec	107 23	105 51	106 4	103 9	134 71	131 61	3 57	3 42	5·32	5 20	7,347	3,475

These indices of prices on the London stock exchange are reproduced by courtesy of the *Financial Times*, London
Constituents of the indices are industrial ordinary, 30 of the leading British industrial equities; government securities, 11 British government securities including short-dated, medium-dated, long-dated and some redeemable only at the option of the government; gold mines, 30 South and West African and West Australian gold mining shares The industrial ordinary share yield is based on dividends on the shares in the industrial ordinary share index. Stock exchange markings are the number of bargains recorded in the stock exchange official list Base dates of the indices, when they were 100, are industrial ordinary, July 1, 1935; government securities and gold mines, Oct 15, 1926.

TABLE II.—U.S. SECURITY MARKET PRICES

	Railroads 20 stocks		Industrials 50 stocks		Public utilities 20 stocks		*Copper 7 stocks		Stocks 90 stocks	
	1948	1949	1948	1949	1948	1949	1948	1949	1948	1949
January	43·6	43·2	145·5	151·7	68·6	68 6	115 1	128·1	117·7	121·9
February	41·6	40 2	138·2	145·2	65·6	69·3	108 2	116·7	112·0	117·3
March	42·5	39 6	140·1	146·7	66·4	70·5	116·5	111·1	113·6	118·4
April	46·8	39·5	151·4	146·1	69·1	71·8	132·3	105·7	122·3	118·3
May	50·2	38·8	158·6	144·6	72·2	72·7	136·2	103·3	128·3	117·4
June	51·0	35·8	165·8	136 2	74·0	70·3	142 0	98·9	133·6	110·9
July	50·6	36·7	161·5	144·9	72 8	72·3	140·2	107·3	130·4	117·2
August	48·7	38·3	156·8	149·8	70·7	75·6	137 0	109·1	126·6	121·4
September	48·7	38 6	154·7	151·4	70·6	77·8	134·3	105 4	125·1	123·0
October	49 1	39·5	159 6	155·6	71·1	79·1	139·1	109·6	128 6	126·2
November	44·4	39 2	151·0	158·0	67·5	79·8	130 9	113 6	121·4	127·9
December	43·1	41·0	150 5	162·3	66 1	81·6	129 4	114 9	120·6	131 6

* 1935-39 base period, all other figures use 1926 as a base period
The above figures are an average for the month based on daily closing prices, except for copper, which are weekly closing prices.
(Source: Standard & Poor's *Trade and Securities, Current Statistics*)

market in others, but without any definite momentum for future forecasting.

Corporate dividends, with the exception of certain limited groups like the amusement, food products and mining stocks, showed an increase of 8·2% in total dividend distribution during 1949 as compared with 1948. As was the case in 1948, most groups of corporations except the rails managed to adjust themselves fairly well, through price increases and improved productive efficiency, to the large successive wage increases won by labour in 1947-49

The stock market seemed to withstand the shock of adverse news throughout 1949; the market might "back and fill," but the averages were well maintained. A longer perspective view might conclude that the drastic decline of the last half of 1946 could be regarded as a discounting of the nation's economic problems during 1947-49, and thus explain the periodic backing and filling of the market during the three previous years.

On Nov. 1, 1949, the market value of all listed shares on the New York Stock exchange stood at $72·631 million with an average flat price per share of $43·75. On Nov. 1, 1948, this market value stood at $72,186 million, with an average flat price per share of $45·26. A depreciation in the value per share of approximately 3·3% was shown for the period.

According to the New York Stock exchange's compilation, the total stocks listed on that exchange on Nov. 1, 1949, stood at 2,145 million shares, with a total market value of $72,631 million. This value compared with $72,185 million on Nov. 1, 1948, $68,884 million on Nov. 1, 1947, $66,115 million on Nov. 1, 1946, and $69,560 million on Nov. 1, 1945. Of the 1949 total (as of Nov. 1) U.S. stocks aggregated 2,079 million shares valued at $71,451 million, and stocks of other countries 65,834,000 shares, valued at $6,180 million. The total of shares was distributed over 1,432 separate U.S. issues and 20 issues of other countries, representing a total of 1,452 issuing corporations.

TABLE III.—U.S. BOND PRICES FOR 1949
Composite Bonds A1+
Dollars per $100
(Standard and Poor's Weekly Corporation)

Month	Average
January	119·8
February	120·0
March	120·7
April	120·2
May	120·2
June	120·2
July	120·9
August	121·7
September	122·1
October	121·9
November	122·2
December	122·5

Total shares traded on the New York Stock exchange during 1949 amounted to 272,203,402 shares, as compared with 302, 218,965 shares during 1948. The New York curb market had sales during 1949 of 66,130,000 shares, as compared with 75,090,000 during 1948. The U.S. bond market was remarkably stable during 1949 at a high price level. The rise in bonds after June was accompanied by a similar trend in the stock market.

According to the New York Stock exchange's compilation, the total par value of bonds listed on that exchange at the beginning of Nov. 1949 stood at $129,870 million, with a market value of $132,221 million—comparing with $131,226 million and $136,711 million for the corresponding years of 1948 and 1947. Of the 1949 total, U S. corporation bonds (at the beginning of November) amounted to $17,328 million (par value), with a market value of $16,478 million; company bonds of other countries, a par value of $551,153,000 and a market value of $475,925,000; U.S. government bonds (inclusive of corporations and subdivisions). a par value of $110,279 million and a market value of $114,029 million; and other governments (inclusive of subdivisions), a par value of $1,460 million and a market value of $982,410,000. The total listed bonds of U.S. corporations were distributed over 616 issues with 312 issuers; of U.S. government bonds, 71 issues and 3 issuers; and other governments, 182 issues and 48 issuers. The total bonds traded on the New York Stock exchange during 1949 amounted to $817,949,070, as compared with $1,013,829,000 during 1948.

According to the condensed statement, income and expenses of the exchange for the nine months ended Sept. 30, 1949, showed a net loss of $325,995. This compared with a loss of $367,108 for the same period of 1948 (*See* also BUSINESS REVIEW.) (S. S. H.)

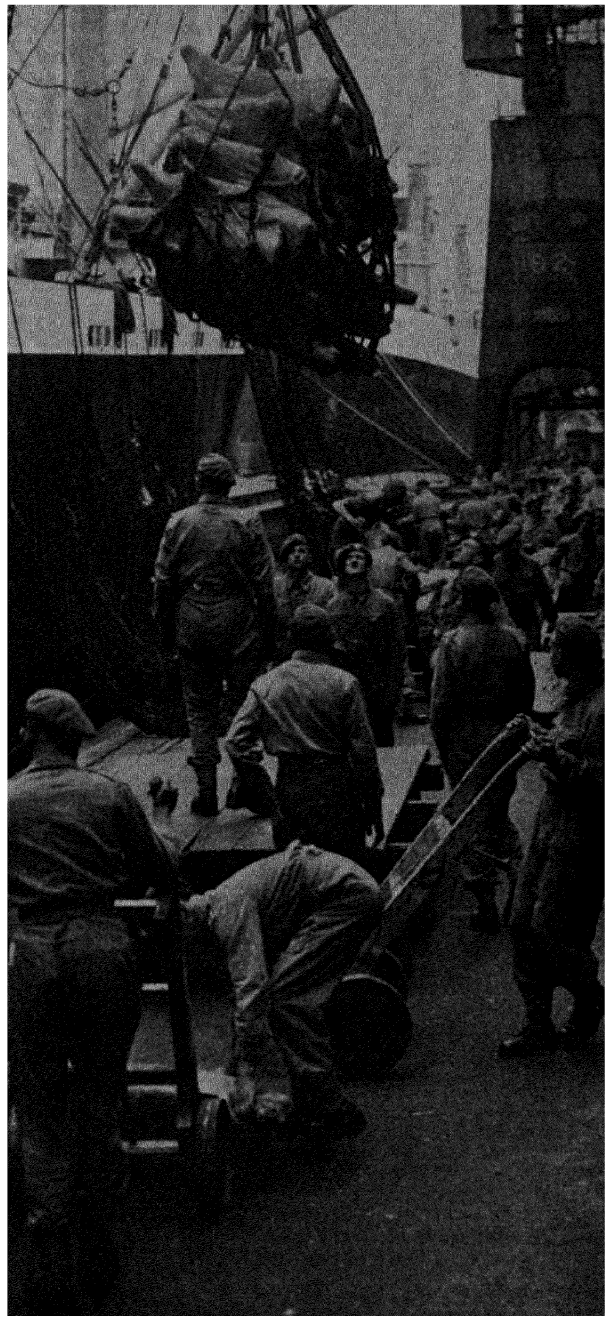
STRAITS SETTLEMENTS: *see* MALAYA (FEDERATION OF) AND SINGAPORE.

STRANG, SIR WILLIAM, British diplomat (b. Jan. 2, 1893), was educated at Palmer's school, Grays, at University college, London, and at the Sorbonne, Paris. He served in World War I, and entered the diplomatic service in Sept. 1919. From 1919 to 1922 he was in Belgrade and was in Moscow from 1930 to 1933. He was promoted to be an acting assistant under secretary of state in Sept. 1939 and in Nov. 1943 was appointed United Kingdom representative on the European advisory commission with the personal rank of ambassador. He became political adviser to the commander in chief of the British forces in Germany in June 1945, and in Oct. 1947 he returned to the Foreign Office as joint permanent under secretary of state (German section). He succeeded Sir Orme Sargent as permanent under secretary on Feb. 1, 1949. He visited Austria and attended meetings of the Allied council in March 1948. In May and June 1949 he undertook a tour of north Africa and the middle east and visited Tripoli, Benghasi, Amman and Tehran. His

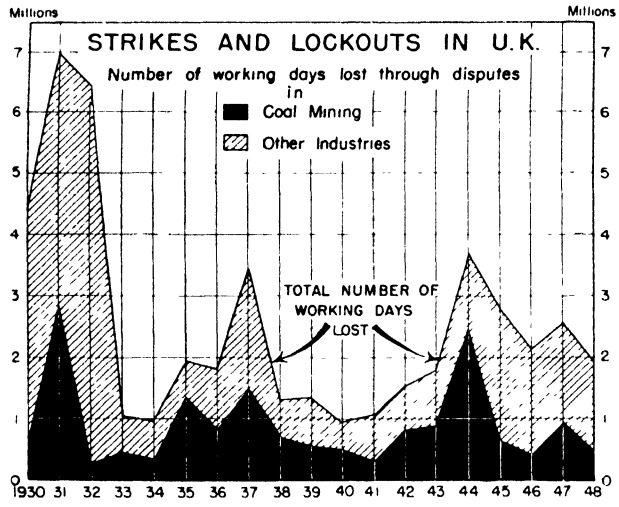
proposed visits to Baghdad, Bahrein and Saudi Arabia were cancelled because of indisposition. He was created a K.C.M.G. in 1943 and a K.C.B. in 1948.

STRIKES AND LOCK-OUTS. Up to October, the total number of days lost in Great Britain in 1949 by strikes and lock-outs was only 1,665,000 working days, as compared with 1,824,000 in the corresponding period of 1948. These were both remarkably low figures, in relation to a labour force of 22 million. Most of the days lost were accounted for by coal-mining (735,000) and transport (528,000); but even in coal-mining the loss was only a day for each man employed, and was much less serious than the loss of output from either sickness or voluntary absence from work. The only considerable stoppages during 1949 were the following. In January there was a one-day strike of 28,000 London road transport workers for special payment on Saturday afternoons (referred to arbitration). In April there was a three-days' strike of 16,700 London dockers and stevedores in protest against discharges of workers regarded as redundant or ineffective: work was resumed without concessions. In May dockers at Bristol, Liverpool and a few other ports struck in sympathy with the left-wing Canadian Seamen's union, refusing to handle cargoes for vessels involved in the dispute between this union and the Canadian shipowners. The strike petered out in mid-June, after involving about 11,500 men at one time or another. There also occurred in May a 12-day stoppage of the Lancashire coal-miners in connection with a claim to "concessionary" coal (that is, coal at less than market price for the miners' own use). This dispute, involving 44,000 men, ended inconclusively, the matter being referred for negotiation nationally between the Coal board and the National Union of Mineworkers. In June the Canadian shipping dispute led to a further stoppage, this time in London. At first only a few hundred men were involved; but later in the month the trouble spread, and in the third week of July the number rose to nearly 16,000. On July 23, the strike, which had been throughout unofficial and opposed by the Transport and General Workers' union, was called off by the unofficial leaders, a month after its beginning. In August 91,000 workers in the Yorkshire and Lancashire coalfields were idle for four days owing to a strike of 550 winding enginemen, who claimed higher wages on the ground that their time-rates were out of relation to the earnings of other mineworkers, and that the N.U.M. was refusing to deal adequately with their demands in its negotiations with the National Coal board. This dispute was referred to arbitration after the Colliery Winders' federation had ordered a resumption of work. The National Arbitration tribunal later rejected most of the claims; but some concessions were secured. In August there was also a small but important dispute affecting locomotive drivers and firemen on east coast routes. The matter at issue concerned the conditions of "lodging turns," where men had to be away from home overnight. Objection was taken to new regulations, which the men resented as involving too frequent absences. The stoppage of work occurred on successive Sundays between Aug. 14-28, and was ended by a promise to withdraw the disputed turns at the end of the summer, and not to re-introduce them. In September a series of stoppages, none lasting for more than a few days, took place at various collieries in Scotland, where the "oncost" workers paid at daily rates demanded higher wages. The matter was referred for further negotiation between the Coal board and the N.U.M. There were no disputes of importance in either October or Nov. 1949. But on Dec. 12 an unofficial strike at three London power stations, which spread to a fourth, over a wages decision, constituted a serious threat to London's electricity supply, despite the drafting of servicemen to man the stations. After discussions between the strike leaders, trade union officials and the British Electricity authority, work was fully resumed on Dec. 16.

In considering the absence of serious industrial strife it is necessary to bear in mind that the wartime provisions for the reference of disputes to arbitration by the National Arbitration tribunal or some other acceptable body remained in being, and also that the policy of the Trades Union congress in advising unions to refrain from pressing wage-claims meant that nation-wide stoppages could not occur. Most stoppages were therefore unofficial, or at any rate sponsored



Troops unloading meat from the "Argentine Star" at London docks on July 7, 1949, during the London dock strike.



only by smaller unions which rejected the official policy; and most of them arose out of grievances in a particular establishment or at most a particular district. Of the major disputes mentioned, only the sympathetic stoppages in support of the Canadian Seamen's union showed any considerable sign of Communist influence, which was weak in most unions—even in those in which Communists held a number of official positions. Even among the London dockers, the large response to the unofficial strike-call came mainly from men who did not support Communism but were discontented with what they regarded as the bureaucratic leadership of the Transport and General Workers' union. Moreover a call not to blackleg on fellow-workers usually exercises a strong emotional appeal, and in the London and Bristol dock stoppages the extension of the trouble was due largely to unwise handling of the issue by the port employers. In general, a growing sense of national emergency strengthened the hands of the official leaders of the trade unions in checking all stoppages except those due to purely local troubles and in bringing such spontaneous movements to a rapid end.

The period of industrial tranquility in Great Britain, as measured by the absence of really serious stoppages of work, had lasted for 23 years—ever since the general strike of 1926. To a considerable extent this was due to the great extension of collective bargaining procedure and, after 1939, to the adoption of arbitration as the normal method of settling differences when agreement could not be reached by direct negotiation.

In the British colonies, serious troubles developed in November out of a strike of coal miners in Nigeria. Police attempting to remove explosives from the affected mines were attacked and opened fire, killing a number of strikers; and trouble spread to the ports. A state of emergency was declared in the areas affected.

Europe. In France there were in 1949 no stoppages comparable in importance with those of the previous year, which included the extensive and bitterly fought coal strike of Oct.-Nov. 1948. The most important strike in 1949 was a one-day stoppage of civil servants (including teachers) in June, initiated by the Socialist trade union Force Ouvrière, but supported both by the Communist-led Confédération Generale du Transit and by the Christian trade unions. The purpose of the strike was to protest against the government's refusal to grant higher salary scales to compensate for increased living costs. A further protest strike, extending over a much wider field but also limited to a single day, took place in November. In Italy extensive farm workers' strikes in June secured considerable concessions from the government (*see* TRADE UNIONS), and renewed troubles broke out in southern Italy and Sicily in November in protest against the delay in enforcing land distribution for the benefit of landless peasants. In Western Germany there were small and short stoppages in protest against the continuance of dismantling but no considerable stoppages. (G. D. H. C.)

United States. During 1948 (Table I), the U.S. experienced 3,419 labour disputes, a decline of 274 from the 1947 level and of 1,566 from the 1946 level. A total of 34,100,000 man-days were lost in 1948 which was only slightly less than in 1947. This was opposed to the record level of 116 million man-days lost in 1946. The first eight months of 1949 indicated a further decline in such activity since the strikes in progress caused a loss of less than 19 million working days. However, several very large strikes of several weeks' duration occurred in the coal-mining and steel industries in later months.

In Table I, figures on man-days idle and workers involved cover all workers made idle in establishments directly involved in a stoppage. Figures for 1949 are preliminary and subject to revision.

TABLE I.—UNITED STATES. NUMBER OF STRIKES BEGINNING IN THE YEAR, WORKERS INVOLVED AND MAN-DAYS LOST

Year	Number of strikes	Number workers involved	Man-days idle during year	% of estimated work time
1935-39 average	2,862	1,130,000	16,900,000	0·27
1945	4,750	3,470,000	38,000,000	0·47
1946	4,985	4,600,000	116,000,000	1·43
1947	3,693	2,170,000	34,600,000	0·41
1948	3,419	1,960,000	34,100,000	0·37
1949 (8 mo.)	2,625	1,976,000	18,750,000	0·32

SOURCE: United States Bureau of Labour Statistics, *Monthly Labour Review*

Canada. Table II compares the number and time loss in Canadian labour disputes for the first eight months of 1949 with figures for all of 1948. During Jan., Feb. and Aug. 1949, time lost and employees involved declined below the corresponding months of 1948. All other months of 1949 experienced an increase in time loss (except July) and in number of workers involved. (P. TA.)

TABLE II.—NUMBER* AND TIME LOSS IN CANADIAN LABOUR DISPUTES, 1949 (EIGHT MONTHS) AND 1948, BY MONTHS†

	1949			1948		
	No. of strikes	No. of employees involved	Time loss in working days	No. of strikes	No. of employees involved	Time loss in working days
Jan.	10	1,811	9,700	19	12,729	135,835
Feb.	9	7,235	71,732	14	11,058	140,130
March	10	5,978	135,725	15	3,845	57,133
April	18	7,877	139,500	18	4,678	51,269
May	23	10,540	174,150	22	3,204	39,754
June	27	11,359	141,084	29	3,804	34,337
July	18	12,501	57,744	26	8,338	77,588
Aug.	19	4,541	35,451	31	7,617	110,625
Sept.	—	—	—	32	11,878	118,293
Oct.	—	—	—	23	7,310	87,223
Nov.	—	—	—	20	3,307	16,000
Dec.	—	—	—	11	2,481	18,939

* These figures relate only to the actual number of strikes and lock-outs in existence and the workers involved during the year, not being a summation in each case of the monthly figures.

† Compiled from the *Labour Gazette* (Ottawa). All 1949 and last three months of 1948 figures are preliminary.

SUDAN: *see* ANGLO-EGYPTIAN SUDAN; FRENCH UNION.

SUEZ CANAL. The substantial increase in tanker traffic between the middle east and Europe passing through the Suez canal led to a decision at the close of 1948 to embark on a major programme of improvements, in particular the cutting of a by-pass canal about 30 mi. south of Port Said. The by-pass would be 7½ mi. long, and would enable petroleum ships proceeding in convoy, as do other vessels today, to make the transit with increased speed and under even greater conditions of safety, as they would no longer have to pass alongside other ships. The work was entrusted

to a French group of companies and was started in the second half of 1949. It was estimated that it would take about 15 months at an approximate cost of £1 6 million.

The Suez Canal company also decided to deepen the canal by 20 in over its whole length, involving the removal of 8 million cu. yd. of under water soil and 800,000 cu. yd. of rock. This would require from four to five years. Additionally, the tanker mooring-station in Lake Timsah would be deepened, and one of the basins in Port Said enlarged to permit the berthing of 18 ships of 660 ft. instead of 9 ships of 330 ft.

On March 7 an important new agreement was signed between the Egyptian government and the company. The provisions were as follows:

I. The number of Egyptian directors will gradually be increased from 2 to 7. Two will occupy the vacancies in the quota of French directors. One will be given the first vacancy in the quota of non-government British directors; and two additional Egyptian directors will be appointed, one in 1959 and the other in 1964

II. On July 1 annually the company will pay the Egyptian government an allowance of 7% of the gross profits of the preceding financial year, with a guaranteed minimum of £E350,000. This allowance, however, shall not exceed the total gross profit should this fall below that figure

III. Exemption from canal dues will be granted to all transiting vessels of less than 300 gross Suez canal tonnage

IV As from 1949 the company will engage its staff working in Egypt on the scale of 4 Egyptians for every 5 vacancies on the technical side, and 9 for every 10 vacancies on the administrative side The company will also recruit a certain number of Egyptian officials for other intermediate posts

V Providing they have the requisite professional qualifications 20 Egyptian pilots will be granted priority of engagement to fill forthcoming vacancies Subsequently one in every two vacancies will be reserved for an Egyptian pilot

VI The company renounces its right to the remainder of the sums due by the town of Port Said in reimbursement of development carried out in the past

VII The Egyptian government will establish a municipality at Ismailia, which in future will be responsible for the town's development and maintenance expenses

VIII. The company will hand over to the Egyptian government the Ismailia-Port Said fresh water canal, the government assuming responsibility for its upkeep and for providing the company's waterworks in Port Said with the water necessary for the requirements of the town and shipping generally

IX. The company will create a basin for the fishing fleet at Port Said.

X. For the purpose of constructing the by-pass canal the required tract of land will be conceded to the company in exchange for double the surface of land elsewhere not indispensable for the running of the canal.

XI. The concession for the exploitation of Attaka quarries, providing stone for the company's needs, will be renewed and extended up to the end of the company's canal concession

This agreement came into force in August after ratification by both parties

During the year Norway offered a serious challenge to the United States for second place among the nations using the canal and the year was also marked by the appearance in the canal for the first time of vessels flying the Liberian flag.

Although there was no peace settlement between Egypt and Israel the position affecting the search of vessels in Egyptian ports and the detaining of some cargoes which might be destined for Israel had eased. Satisfactory conversations took place in Paris in June between the British foreign secretary and the Egyptian foreign minister. Following upon the resultant improvement, the Egyptian customs administration in November informed shipping agents of an order which permitted free transit through Egyptian ports of normal commercial cargoes to and from Israel. (H. J. S)

The Growth of Traffic. In 1880, 2,026 ships totalling 3 million tons used the canal In 1913 the figures rose to 5,085 ships and 20 million tons, in 1938 to 6,171 ships and 34 million tons; in 1948 to 8,686 ships and 55 million tons.

SUGAR. Climatic conditions in Europe in 1948 were more favourable for the growing of sugar beet than in 1947 when the crops in most countries suffered from drought. The estimated total beet sugar output of Europe, exclusive of the U.S.S R., in the 1948-49 season, on a raw value basis, was over 6½ million tons compared with less than 4½ million tons in 1947-48, some 5 million tons in 1946-47 and an average of about 7 million tons for the years just before World War II. There was a fairly general all-round increase in production and in some countries, notably Germany, France, Czechoslovakia and Italy, the increase was considerable. Germany, with an output of 1,300,000 tons, and France with 950,000 tons, were the leading producing countries; they were followed, in order of importance, by Poland, the United Kingdom and Czechoslovakia, each of which had a crop above the prewar average. Although the increase for the United Kingdom was less marked than that of some of the other countries, its output, at 630,000 tons, was about 150,000 tons more than in 1947-48 and the heaviest ever recorded. Official estimates for the U.S.S.R. were not available, but trade reports indicated a yield of approximately 1,800,000 tons, an increase of some 300,000 tons over the figure for 1947-48. Preliminary estimates for 1949-50 indicated little change in the production of beet sugar in Europe but a further recovery in the U.S S.R.. though its figures were not expected to be up to the prewar level.

In spite of a fairly big reduction in the output of Cuba compared with the very high figure of 1947, and some decline in the production of India, there was a further increase in the world output of cane sugar in 1948-49, the estimated total yield, in terms of raw sugar including the raw value of Indian *gur*, being nearly 20½ million tons as against 20 million tons in 1947-48. The expansion was due largely to heavier crops in other parts of the Commonwealth and a substantial recovery in the production of the Phillipines and other territories occupied by the Japanese during World War II. The combined production of India and Pakistan was estimated at about 3,600,000 tons. The bulk of this quantity, however, consisted of *gur*, an inferior type of sugar; the output of white sugar accounted for only about 1,300,000 tons. Of the other Commonwealth countries, Australia was by far the most important with an estimated output of over 900,000 tons; South Africa produced about 550,000 tons. There was a very heavy crop in Jamaica; the British West Indies and British Guiana together provided some 800,000 tons. Production in Mauritius was estimated at nearly 400,000 tons. The combined output of the countries mentioned exceeded that of 1947-48 by more than 400,000 tons and, in each case, production was appreciably heavier than in prewar years. On the basis of preliminary crop estimates, output of cane sugar in Commonwealth countries in 1949-50 should be approximately the same as in 1948-49. It was expected that crops would be good in India, Pakistan and Australia and that production in South Africa and the British West Indies would be maintained at about the 1948-49 high level.

The international trade in sugar was confined mainly to cane sugar. Among Commonwealth countries increased domestic consumption in Australia and South Africa in the 1940s reduced the supplies available for export and, in most years, shipments from India were comparatively unimportant. In 1948-49, however, the exports from Australia rose sharply from the 1947-48 total of 100,000 tons to over 400,000 tons. Exports from the British West Indies and British Guiana were also heavy in 1948 at nearly 500,000 tons, and those from Mauritius totalled over 350,000 tons.

Imports of raw sugar into the United Kingdom in 1948-49 (September to August) totalled slightly over 2 million tons, an increase of some 200,000 tons compared with 1947-48. Cuba was again the main source but its supplies accounted for only about 25% of the total as against over 50% in the previous year. There was a considerable increase in the

supplies from Australia and Mauritius. Imports from the British West Indies were about the same as in 1947-48. In 1948 the United Kingdom government guaranteed Commonwealth producers an outlet for their exportable sugar up to the end of 1952 either in the United Kingdom itself or in other Commonwealth countries and, more recently, stated its intention to make long term purchase arrangements. With this object in view a conference of representatives of Commonwealth producers was held in London in Nov. 1949. (D. G. B.)

United States. Total sugar production in the U.S. was estimated at about 2·1 million tons in 1949 as compared with 1,846,000 tons in 1948. The preliminary estimate of the 1949 crop included 1,550,000 tons of refined beet sugar and 550,000 tons of cane sugar. The 1949 U.S. crop included a sugar beet crop of 10,110,000 tons, 9% larger than the 9,422,000 ton crop of 1948 and about the same as for the 1938-47 average. Acreage harvested dropped to 690,000, compared with 694,000 in 1948 and 796,000 average of 1938-47. Yields under generally favourable weather conditions increased to 14·7 tons per acre, compared with 13·6 tons in 1948 and 12·7 tons average 1938-47.

The 1949 sugar-cane crop, mostly in Louisiana, to be used for sugar making, was well above average, estimated at 6,842,000 tons, compared with 6,279,000 tons in 1948 and an average for the previous decade of 5,503,000 tons. Yields in tons per acre, were high at 21·5 and acreage at 318,600 was slightly above 1948. Sugar cane for syrup in several southern states was a smaller crop in 1949, principally because acreage was cut to 69,000 ac. from 79,000 ac. the previous year. Production was 11,770,000 gal. as against 13,390,000 gal. in 1948.

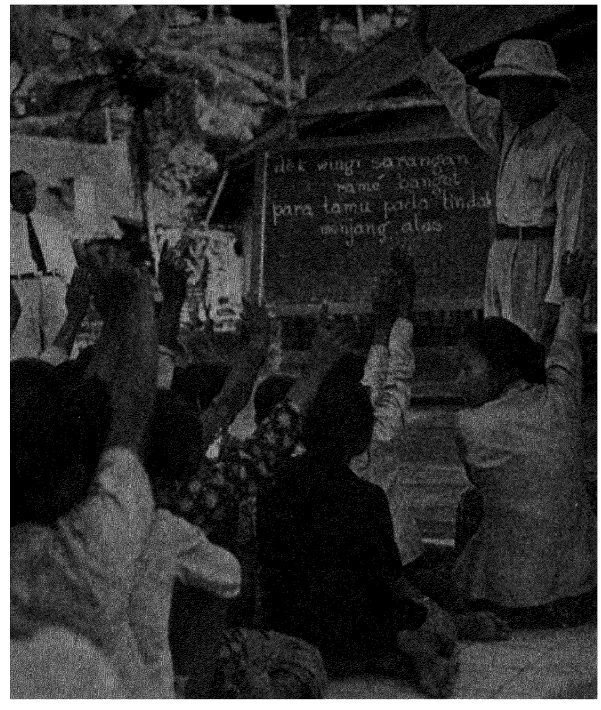
Other minor U.S. sources of sugar such as honey and maple sugar products, were produced in 1949 in significantly larger amounts than in 1948, whereas sorgo syrup was the smallest crop on record, 6,012,000 gal. as against 7,665,000 gal. in 1948. Maple products of the northeast amounted to 1,614,000 gal. of syrup and 292,000 lb. of sugar against 1,445,000 gal. of syrup and 229,000 lb. of sugar in 1948. Prices were generally lower. The 1949 honey crop was estimated at 229,751,000 lb., 11% more than in 1948.

Civilian consumption of refined sugar in 1949 was estimated at 93·3 lb. per person, compared with 95·6 lb. in 1948 and an average of 97 lb. during the years 1935-39. (J. K. R.)

SUICIDE STATISTICS: *see* VITAL STATISTICS.

SUKARNO, AHMED, Indonesian statesman (b. Tulungagung, Java, June 6, 1901). (For his early career see *Britannica Book of the Year 1949*).

After the Japanese surrender, on Aug. 17, 1945, he proclaimed at Batavia an Indonesian republic which was to include all the islands of the East Indian archipelago. In fact, however, by consenting to the signature with the Netherlands government of the Linggadjati agreement (Nov. 15, 1946), he reluctantly reduced his ambitions to parts of Java. On Dec. 19, 1948, it was announced by the Dutch army that he had been captured at Djokjakarta (Jogjakarta) together with many other members of the republican government, and interned at Kaliurang. On Jan. 7, 1949, it was officially stated that he and his colleagues had been released but that they were confined to the island of Banka. On July 6 Sukarno returned to Djokjakarta with his ministers, and on Aug. 17, broadcasting on the fourth anniversary of the republic, said that the transfer of complete and real independence was the condition for peace and security in Indonesia. On Dec. 15 he was elected president of the republic of the United States of Indonesia. On Dec. 28, the day after A. H. J. Lovink, the Netherlands crown representative, had signed the protocol transferring the sovereignty to an Indonesian delegation, Sukarno arrived in Batavia (renamed Jakarta) to take up residence in the palace.



Ahmed Sukarno conducting a class at an Indonesian school in a nationwide drive against illiteracy. (The wording on the blackboard reads "Yesterday, it was very busy at Sarangan, the visitors took a walk in the woods.")

SUMATRA: *see* NETHERLANDS OVERSEAS TERRITORIES

SURGERY. Two general tendencies in the field of operative surgery may be noted during 1949. Improvements in anæsthesia, advances in the treatment of traumatic shock and in the maintenance of circulatory balance during a long and severe operation, accompanied by an increasing knowledge of the balance of fluids, proteins and salts in the circulation and the greater reservoir lying outside it, enabled undertakings whose risks were previously almost prohibitive to be conducted with reasonable safety; and a study of the results of some of the methods of treatment introduced during World War II permitted a better assessment of their value.

Operations in the thorax, and on the upper abdominal organs through the thoraco-abdominal approach, were no longer rare nor particularly dangerous. The intra-thoracic reconstruction of the oesophagus after resection for cancer by anastomosis between the mobilized stomach and the upper cut end of the oesophagus became the standard operation for the middle third of the oesophagus but was not considered practicable for growths of the upper third, until W. H. Sweet of Boston recorded a success by a new technique. He mobilized the stomach by an incision in the eighth intercostal space until it could be lifted to the thoracic inlet and then brought it up into the neck, after enlarging the inlet by resecting the inner end of the left clavicle and left first rib, and sutured it to the cervical oesophagus through a new incision. The upper end of the oesophagus was reconstructed after resection by H. W. Wookey of Toronto using a skin tube. Cancer of the lower end of the oesophagus, which tended to spread to the lymphatic glands of the stomach, was treated by a radical resection of the lower end of the oesophagus, the

spleen, the whole stomach and the pancreas as far as the inferior mesenteric vein in one block through a thoraco-abdominal approach. The cut oesophagus was then joined to the jejunum. T. R. Allison of Leeds reported 24 total gastrectomies by this route, with seven deaths. He also advocated side-to-side anastomosis between a loop of jejunum and the oesophagus in the many inoperable cases that are encountered as a better palliative operation than gastrostomy.

Excision was undertaken in early cases of cancer of the pancreas with more confidence and greater safety. Richard Cattell recorded 56 pancreatico-duodenal resections with a mortality of 17%. The limit of feasible radical surgery was probably reached by Alexander Brunschwig who, after describing a total clearance of the female pelvic viscera for cancer, recorded a case in which the male pelvis was cleared for a carcinoma of the colon attached to the bladder.

Formerly traumatic stricture of the common bile duct could be cured with certainty only by mobilization of the ends and suture of mucosa to mucosa. When this result could not be realized, suture over a vitallium or rubber tube, or the use of a loop of bowel, defunctioned on the Roux-en-Y principle, were popular methods. For the tragic case, previously inoperable, in which no trace of duct could be found in the porta hepatis, W.P. Longmire introduced a new operation. The left lobe of the liver was sectioned until a large duct was identified and this was then anastomosed to a loop of jejunum.

In cancer of the rectum the radical abdominoperineal operation of G. P. Mills was now performed with greater speed and safety by two surgeons working simultaneously, one from the abdomen and one from the perineum. Conservative resection, preserving the sphincters and pelvic floor, had few advocates for cancer, but it was re-introduced for certain benign conditions. M. Ravitch used this method after total colectomy for congenital polyposis of the colon and for intractable ulcerative colitis. The terminal ileum was, in these cases, pulled through the anal sphincter. O. Swenson used the same technique in treating cases of Hirschsprung's disease. He believed that the great dilatation of the colon which occurred was due to obstruction by a spastic segment in the terminal sigmoid colon. This segment of bowel was resected by an intra-peritoneal operation and the proximal colon was pulled through the anal sphincter and sutured to the stump of anal canal.

There was no fresh advance in cardiac surgery during 1949 although further reports of the success of the Blalock operation were made. R. C. Brock quoted a mortality rate of 15% but two thirds of his patients had almost perfect results. Brock reported further on the subject of pulmonary valvulotomy but although successful cases appeared to have satisfactory results the mortality of the operation was 50%. Resection and anastomosis of the aorta for coarctation, introduced by G. Crafoord in 1944, remained the operation of choice. In the rarer, infantile type of coarctation, the left subclavian artery was divided as far out as possible and swung down to be anastomosed to the aorta below the stenosis. R. E. Gross investigated the preservation of cadaver arteries in a viable state. They could be stored in a solution of serum ultra-filtrate at a temperature just above zero, and might be used as grafts to bridge the gap in the aorta after resection of an infantile coarctation or to give added length to the subclavian artery in a difficult subclaviopulmonary anastomosis for Fallot's tetralogy.

With regard to the surgery of hypertension, it was becoming increasingly clear that operations on the sympathetic system would relieve these symptoms even when they had no appreciable effect on the blood pressure. The scope of the operation varies greatly but there was a trend away from the transpleural operation which, in addition to being subject to occasional pleural complications, had the disadvantage of not giving access below the twelfth dorsal ganglion.

It remains to discuss the influence of streptomycin on surgery. The Gram negative infections of the urinary tract which were resistant to penicillin and the sulpha drugs yielded to streptomycin But it was in relation to surgical tuberculosis that the place of streptomycin was most seriously on trial. In tuberculosis of the kidney, streptomycin appeared to be curative in stage I, that is, in bacilluria without X-ray change, but it was without effect in the ulcerocavernous type of disease. Considerable symptomatic relief was reported with tuberculous cystitis but reinfection from the kidneys prevented cure. No improvement in genital tuberculosis took place. In the surgery of pulmonary tuberculosis the incidence of complications following resection was reduced. The contralateral spread of tuberculosis infection following thoracoplasty occurred with equal frequency, but streptomycin was effective in controlling such spread and thus rendered thoracoplasty safer. (*See* also ANÆSTHESIOLOGY.) (W. H. OE.)

SURINAM: *see* NETHERLANDS OVERSEAS TERRITORIES.

SWAZILAND: *see* BRITISH SOUTH AFRICAN PROTECTORATES.

SWEDEN. A constitutional monarchy of northern Europe, lying on the eastern side of the Scandinavian peninsula, bounded on the N.E. by Finland, on the E. and S. by the Baltic sea, on the S.W. by the straits of Öresund and the Kattegat and on the W. and N.W. by Norway. Area: 173,390 sq. mi. Pop.: (1945 census) 6,673,749; (Dec. 31, 1948 est.) 6,924,888 Chief towns (pop., 1948 est.): Stockholm (cap., 710,591); Gothenburg or Goteborg (343,978); Malmo (185,947); Norrkoping (83,279); Halsingborg (70,729). Language: Swedish, with some Finnish (1930: 33,929) and Lappish (1945: 4,140) in the north. Religion: predominantly Lutheran; there were, however (1930 census), 119,361 Protestant dissenters of various denominations, 4,818 Roman Catholics and 6,653 Jews. Ruler, King Gustaf V (*q.v.*); prime minister, Tage Fritiof Erlander; minister of foreign affairs, Östen Undén (*q.v.*).

History. To the western world, preoccupied with forming and strengthening the North Atlantic treaty, Swedish events of 1949 were seen in the shadow of a conspicuous negative, summarized as "Sweden abstains"; to the native citizen it was a year of progress in the economic field and of steadily expanding inter-Scandinavian and international co-operation, carried forward with a spirit of confidence in the fruits of continued "neutrality" which explicit warnings from the military scarcely disturbed.

The Scandinavian defence committee reported, soon after Jan. 1, that a common military policy would increase possibilities for resistance because of the larger territory involved, unified planning and the standardization of equipment, although supplies would still be needed from other countries in peacetime, and armed support in war. The opportunity to secure the advantages thus defined was immediately studied at three conferences by the Swedish, Danish and Norwegian prime ministers and foreign and defence ministers, parliamentary representatives attending the second and third. An intimation that Norway and Denmark would soon be invited to discuss the North Atlantic treaty in Washington lent urgency to these deliberations. At Karlstad (Jan. 5-6) the Norwegian spokesmen were encouraged by a Swedish draft for a binding ten-year Scandinavian defence union (excluding Greenland, the Faeroes, Spitsbergen and Jan Mayen Land), which would make an attack on one an attack upon all; but adequate armament was still contingent on supplies from the U.S., whose ambassadors in the three capitals made it clear that deliveries must go first to full allies of the Atlantic

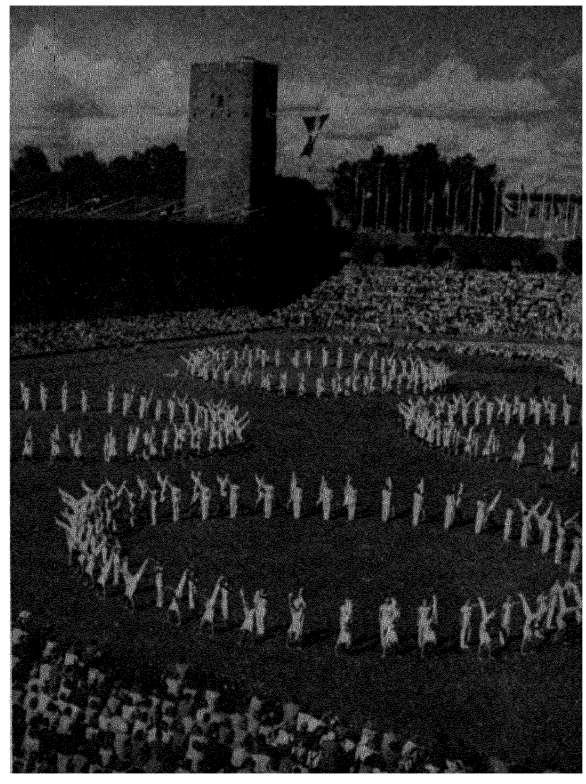
group and prior commitments, and that " outsiders " would have to pay for them. At Copenhagen (Jan. 22-23) Halvard Lange (*q.v.*) suggested offering at least staff talks on strategy to the western powers, but such consultations were rejected by Sweden as unneutral and after the Oslo meeting (Jan. 29-30), which the Scandinavian ambassadors to the U.S.S.R., the U.S. and Great Britain had attended, communiqués admitted failure, although stressing the desire for collaboration in other spheres.

In a report to parliament (Feb. 9) Tage Erlander, the prime minister, admitted that a Scandinavian pact would have involved a departure from neutrality, and Östen Undén, minister of foreign affairs, explained that the manifest tendency in Norway to change her former foreign policy had led the government to propose a defensive association which would be independent of any outside power. Sweden would, however, now again adhere to a neutrality qualified only by U.N. membership. Uneasiness was perhaps revealed in Erlander's oft-quoted statement, on the same occasion, that " Sweden will build a defence which will delay an aggressor long enough for Swedish territory to become a base for the other side," the ambiguity leading friends of the west such as Herbert Tingsten of the liberal *Dagens Nyheter* to fear that potential friends, as well as enemies, might be confused about the nation's attitude. The detachment of the " middle way " was indeed emphasized when Per Edvin Sköld, minister for economic co-ordination, told an open-air meeting of the Northern society in Denmark (Sept. 11) that even Norway was under long-term pressure, even if less obviously than Finland, and attributed the breakdown in Scandinavian negotiations to the influence which the " Anglo-Saxon great powers brought to bear to hinder the creation of an independent Nordic defence *bloc*," in accordance with their predetermined policy.

Meanwhile Sweden, already far better armed than her neighbours (the forces having received some £70 million worth of new materials, including 1,000 aircraft, since 1945), gave evidence of taking the risks of enhanced isolation seriously. General Bengt Nordenskiöld (*q.v.*) visited R.C.A.F. stations in Canada and eight Meteor jet fighters from Britain paid Stockholm an official visit in August. The new budget (Jan. 11) allotted about Kr.800 million to defence, and parliament increased the appropriation for military equipment to Kr.125 million and gave the government a free hand in furthering preparedness and extending refresher courses. Radar had to some extent been installed, on the basis of Swedish research, from 1942 but by 1949 most units of the navy had received British radar equipment. Vice admiral Helge Strömbäck announced (Sept. 14) that the fleet would be strengthened to meet the " serious risk of submarines and mines in the Baltic."

Nevertheless military leaders did not disguise their disquiet at the triumph of isolationism. General Nils Swedlund, chief of the defence staff, stated (March 9) that a military alliance would both ensure foreign aid in war and give Sweden the advantage of the great powers' military and scientific research; he dismissed moreover the usual argument basing the need for neutrality on the position of Finland, for that country could, he considered, be occupied more quickly than Sweden could make up deficiencies in defence. General Helge Jung, commander in chief of all forces, followed up many earlier warnings by underlining to Lund university students (Nov. 25) the danger of a third world war and saying grimly that in case of invasion

> " evacuated areas must not be regarded as pacified. Isolated army units and the home guard, supported by a freedom-loving and self-sacrificing population, must wage war in the enemy's rear to the bitter end . . . Yet the survivors in western Europe would finally see the return of freedom, because of the superior war potential of the west."



Swedish men gymnasts performing on the last day of the Lingiad which was held in Stockholm, July 1949.

Opening an exhibition of local products at Lycksele, northern Sweden (July 16), Jung also called attention to a " small, but not harmless group of Swedes who had sworn allegiance to a foreign power " and " could constitute a grave danger in the event of war," urging that effective measures be taken in time against this fifth column, instead of letting Swedish good nature give it passive assistance. He was severely taken to task by the organ of the Social Democratic party in the north for the " pessimism " of his comments on such an occasion, which should rather be associated with faith in the future, and a leading article asked whether the commander in chief differed from the government and parliament as to what constituted suitable measures against a possible danger. The prime minister had, indeed, referred (May 15) to the fact that Communists held confidential positions; *e.g.*, in the police and in civil and home defence, but considered that " undemocratic " elements should be combated chiefly by weakening the voters' support: the Communist party was, he thought, likely to suffer a marked defeat in the 1950 municipal elections. The Communists were in fact already losing some ground in trade union elections. The dangers at key points in Sweden's vulnerable, productive north were however detailed in a series of articles on the sabotage problem in *Dagens Nyheter* (Sept. 12-18), which later echoed the fears of the weekly *Året Runt* about Communists who were legally armed as members of the home guard (Nov. 11).

Among many instances of Scandinavian co-operation in 1949 was the common decision to join the Council of Europe; at Strasbourg Bertil Ohlin, economist and Liberal party leader, was elected to the general committee and made an outspoken plea for devaluation as the lesser evil in Europe's trade plight. Sweden, Norway, Denmark and Iceland

decided together to withdraw from the W.F.T.U. (*see* TRADE UNIONS), and Denmark was diplomatically supported by the other three with respect to South Schleswig An important step towards the co-ordination of social security regulations was an agreement (Aug. 27) making old-age pensions available to Scandinavians in any of these four states, regardless of shifts in place of employment from one to another Sweden, Norway and Denmark decided to support the admission of Israel to the U.N., but Sweden had accorded Israel only *de facto* recognition (Feb. 16), since the Israeli authorities had "regrettably failed" in taking adequate precautions for Count Bernadotte's protection and because of the "entirely unsatisfactory" nature of the investigation into his assassination.

Swedish economic conditions gave the prime minister grounds for claiming that the prewar standard of living was almost regained. Wages were 90% higher than prewar, with the cost of living only 53% higher, although by 1949 social services absorbed 10% of the national income. The danger of inflation was said to have been averted, with the price level steady for two years and unemployment down to 2·7%, a record. Meat, butter, fat, sugar and soap rationing ended by August, motor car tyres and the coal trade (except coke and anthracite) were released and only coffee and petrol remained rationed Some social trends caused anxiety: for example a continuing flight from the land, a high divorce rate still rising and increased crime in Stockholm

Ernst Wigforss, a brilliant economist who had been minister of finance in every Social Democratic government since 1925 and in the wartime coalition, resigned in June, admired on the one hand as a sincere Socialist of the old guard, he had on the other been the main target for critics of high taxes and control. David Hall took his place, but resigned within four months because of publicity given to correspondence on a matter of party discipline. The first woman cabinet minister, Karin Kock, left the government (Dec. 29) to head the Central Bureau of Statistics. Gunnar Hedlund succeeded the veteran Axel Pehrsson Bramstorp as leader of the Farmers' party. The Conservative party sought for the basis of a renaissance, after its long period of recession, and the leaders of the Young Conservatives and Young Liberals urged the government to respond at least to Norway's offer of discussions on defence, Gallup polls indicating a considerable body of opinion favourable not merely to Scandinavian unity but to joining the North Atlantic treaty.

The O.E.E.C. recommended that Sweden should receive $40 million in 1949-50 as compensation for the "drawing rights" which it was extending to other E.R.P. countries ($34 3 million to Norway and $9 3 to Greece). Sweden released more dollars for import permits in the third quarter of 1949, to be used for the re-equipment of industry. The krona was devalued in step with the pound (Sept. 19). The O.E.E.C. proposal for lifting many import restrictions among Marshall plan countries was accepted and British initiative resulted in Anglo-Scandinavian talks in Stockholm (Dec 15-17), which would be resumed in the New Year.

The Soviet Union sent two notes (Feb. 28 and March 14), the second received by the press before it reached the foreign ministry, accusing the Swedish authorities of terrorizing "Soviet refugees from the Baltic states" and preventing their return home, charges which were described by the government as "sheer imagination." The minister of the interior nevertheless expressed concern (Nov 9) at the recent increase of refugees, mainly from Poland and Germany, about 2,000 arriving illegally in the course of 12 months. Sweden had certainly been hospitable, especially to neighbours, including those in the Soviet sphere, the figures for immigration (and emigration) for 1946-48 being eloquent: from Finland 19,482 (1,394), from Estonia and Latvia 16,611 (27), from Poland and Lithuania 6,196 (162).

Education. Schools. elementary (1947-48) pupils 555,000, teachers 27,500, higher elementary (1948-49) pupils 4,359, continuation (1947-48) pupils 71,600, municipal middle (1948-49), pupils. mixed 4,470, girls' 16,254, practical 7,103, state secondary (1948-49) 203, pupils 75,032, higher private (1948-49) pupils 8,472; folk high schools (1948) 70, students 7,887, two universities and three institutions of higher education (1948-49) students 9,742 The first Lapps' folk high school (Jokkmokk) was inaugurated by Bishop Bengt Jonzon in March 1949, but had received students (including Norwegian Lapps) since 1942

Agriculture and Fisheries. Harvest estimates for 1949 cereals 908,400 metric tons (1948 1,024,300 tons), grain for fodder 20% below and potatoes 11% below the 1930-39 average In 1949-50 Sweden would have to import 75,000 tons of refined sugar Oleiferous plants, subsidized by the state, by 1949 ensured the nation's supply of edible fats In 1947, 7,517,707 ha of state forests produced 5,671,813 cu m of timber Livestock (June 1, 1948) horses 497,260; cattle 2,624,708 (1,705,479 cows), pigs 1,195,018, sheep 349,446, goats 17,177 poultry 9,007,321; reindeer (1947) 168,640 Fisheries (1947) total catch 155,942 metric tons worth Kr 89 9 million

Industry. Industrial establishments (1946) 17,781, with machines of 4,528,367 h.p. and 652,435 workers, producing goods worth Kr.16,030 million. It was expected that iron ore exports would reach 12 million metric tons in 1949 (1948 11 million) In 1948, 14,269 million kwh of electricity were produced (11,663 million hydro-electric, of which 5,760 million from upper Norland). Oil was found, in small quantities, in Hollviken, Skåne In 1945, industry and crafts occupied 39·7% of the population The Industrial board production index (1935 - 100) reached 136 in July 1949

Foreign Trade. (Million kronor, 1947, 1948 in brackets) Imports 5,220 (4,877), exports 3,240 (3,964) The largest supply countries (1948, million kronor) Great Britain (839), U.S. (688); Belgium (290), Poland (265); France (256) The best customer countries: Great Britain (673), Norway (366), U.S. (295), Netherlands (244), Belgium (240) Sweden's principal imports (1948; million kronor): textiles (826); oil and mineral products (1,003); metals and metal products (652), machines, apparatus and electrical material (519) Principal exports pulp, paper etc (1,571), the volume of pulp exports being maintained in 1949 despite loss of sales to U.S.; metals and metal products (455), machines, apparatus and electrical material (458), wood and woodwork (451).

Transport and Communications. Railways (1948) 16,869 km Roads (1949) 90,004 km., including 4,748 km paved Motor vehicles in use (Dec 1948). private cars 179,587, lorries 76,368, buses 6,471 Shipping (Dec 1948) 2,204 sea-going vessels (1,457 steam and motor) amounting to 2,057,304 gross tons In 1948 Swedish ship-building, with 246,000 tons constructed, ranked second in the world Telephones (Dec 1948): 1,450,478, or 212 per 1,000 inhabitants Radio licences (1949) 2,025,099, or one for every Swedish family

Finance and Banking. (Million kronor) Budget: (1949-50 est.) revenue 5,139, expenditure 4,677; (1948-49 est.) revenue 5,015, expenditure 4,426; (1947-48 actual) revenue 4,438, expenditure 4,410 Public debt (Aug 1949) 12,046, (Aug 1948) 11,610 Currency circulation: (Oct. 1949) 2,894, (Dec 1948) 3,113 Gold reserves (Oct 1949) 364; (Nov 1948) 289 Commercial bank deposits: (Aug 1949) 8,100, (Aug 1948) 7,443 Savings bank deposits (June 1949) 6,967; (March 1948) 6,488 The cost of living index (1935 = 100), March 1949: 169 (March 1948 164) The monetary unit is the *krona* (pl. *kronor*), exchange rates £1 = Kr 14 50; U.S. $1 = Kr 5·18 (before Sept 19, 1949, $1 = Kr. 3·60)

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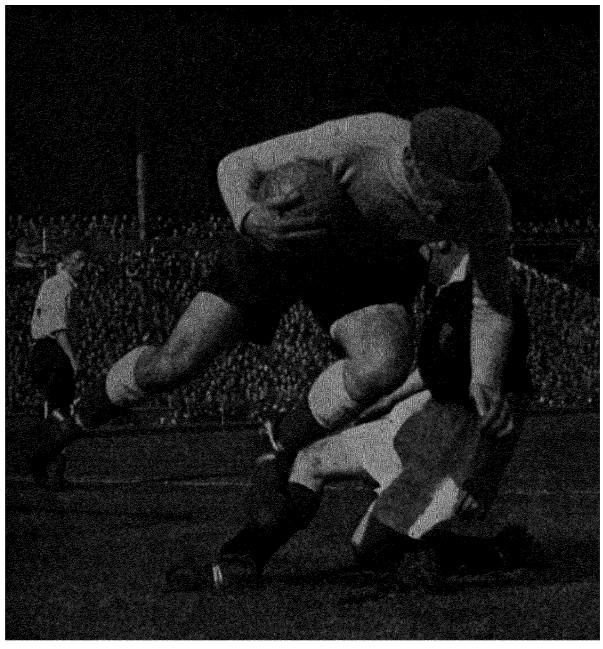
SWIFT, FRANK, English footballer (b. 1914) joined the staff of Manchester City football club and in the 1933-34 season played for the first team. Four months later, at the age of 19, he kept goal for Manchester City against Portsmouth in the F.A. cup final at Wembley. Manchester won by 2 goals to 1 but the excitement of the game was too great for Swift who fainted in the goalmouth. He was chosen as goal-keeper for England against Wales in 1940 and from then onwards until 1949 regularly played for England obtaining more than 25 caps. During World War II Swift served in the army as a physical training instructor and played in army representative teams and also for the combined services. On May 10, 1947, he played for Great Britain against the Rest of Europe side and in honour of his long services to



Frank Swift playing for England against Scotland at Wembley, April 1949. This was the last time he played at Wembley.

English football he captained the English team which, in May 1948, played Italy at Turin, Switzerland " B " team at Bellinzona and Schaffhausen.

He retired at the end of the 1948-49 season but was recalled by his club in Aug. 1949 to play in the first matches of the 1949 season owing to illness of his successor. At a dinner before the England *v.* Ireland match at Manchester in November the Football association presented him with an illuminated address giving details of his international career. Standing more than six feet tall with a big reach (he has a hand span of 11¼ in.) he was one of the greatest goal-keepers in modern football. His book *Football from the Goalmouth* was published in 1948.

SWIMMING. Great Britain took no part in international contests in 1949. England won the Inter-Country Speed contest.

The centralized national championships drew 119 more entries than on any previous occasion, juniors totalling 173, 99 more than in 1947. Seniors' best performances were: Ronald Stedman (Beckenham), 100 m. in 59·8 sec. and 100 yd. in 53·7 sec.; W. J. Brockway (Newport, Mon.), 100 yd. backstroke in 60 sec. and, two 17-year-olds, Elizabeth Turner (Galashiels), 62·4 sec. for 100 yd. and Grace Wood (Bristol), 5 min. 34·7 sec. for 440 yd. Peter Heatly (Portobello) and Edna Child (Plaistow) were the only two British divers in world class, each being highboard and springboard national champions.

England's youngest-ever water polo team won eight out of nine matches played in Norway, Sweden and Denmark. Motherwell won the A.S.A. water-polo championship. For the 1950 Empire games England selected 11 swimmers, Scotland 5, Wales 1. An Amateur Swimming Association's advanced training course for 14 coaches and 31 selected juniors was held at Loughborough college under the tutorship of Max Madders.

A survey directed by the Council for the Promotion of Education in Swimming revealed that more than half of the population could not swim. The Royal Life Saving society, the National Association of Bath Superintendents, and the Swimming Teachers' association did useful work. A National Schools Swimming association and a Channel Swimming association were inaugurated. (B. W. C.)

United States. The rise of Japan to international leadership was the outstanding development in swimming in 1949. Six Japanese youths won the men's outdoor championships of the U.S., winning four of the five free-style events and breaking five world records.

Twenty-one-year-old Hironoshin Furuhashi reduced the time for the 400 m. from 4 min. 35·2 sec. to 4 min. 33·3 sec., 800 m. from 9 min. 50·9 sec. to 9 min. 35·5 sec., 1,000 m. from 12 min. 33·8 sec. to 12 min. 14·8 sec. and 1,500 m. from 18 min. 58·8 sec. to 18 min. 19·0 sec. He also helped Yoshihiro Hamaguchi, Shigeyuki Maruyama and Shuichi Murayama to reduce the time for the 800 m. relay from 8 min. 46·0 sec. to 8 min. 45·6 sec.

Swimmers from the United States won the other events at the title meeting, retaining supremacy in the back and breast strokes and in springboard and platform diving, and they also broke five world records during the year. Allen Stack lowered the back stroke figures for 100 m. from 1 min. 4·0 sec. to 1 min. 3·6 sec., 150 yd. from 1 min. 30·4 sec. to 1 min. 29·9 sec. and 200 m. from 2 min. 19·3 sec. to 2 min. 18·5 sec.; Keith Carter reduced the time for the 100 yd. breast stroke from 59·4 sec. to 58·5 sec. and Paul Girdes, John Blum, Raymond Reid and John Moore that for the 880 yd. relay from 8 min. 24·3 sec. to 7 min. 55·1 sec.

Only one world record for women was officially broken, Greta Andersen, of Denmark, reducing the time for 100 yd. free style from 59·4 sec. to 58·2 sec. (L. DE B. H.)

Channel Swimming. On Aug. 23-24, Philip Mickman, an 18 year-old Yorkshire schoolboy, swam the English Channel in 23 hr. 48 min. and was the youngest swimmer ever to do so. Others followed his example: F. Du Moulin (Belgium) in 22 hr., Hassan Abd-el-Rehim (Egypt) in 15 hr. 46 min., Marie Hassan Hamad (Egypt) in 15 hr. 22 min., Z. Zirganos (Greece) in 18 hr. 30 min. Also, in September, a relay team of six Egyptians swam the Channel from England to France in 11 hr. 11 min.

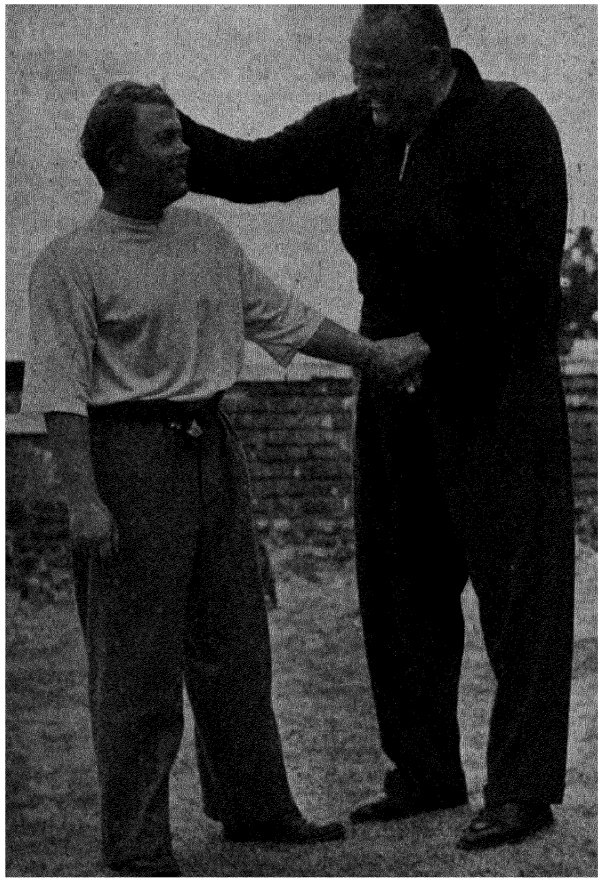
SWITZERLAND. A republican confederation of 22 cantons in west-central Europe, bounded by France to the west, Germany to the north, Austria and Liechtenstein to the east and Italy to the south. Area: 15,944 sq. mi. Pop. (1941 census): 4,265,703; (mid-1948 est.) 4,609,000. Languages: German 72·6%; French 20·8%; Italian 5·2%; Romansch 1·1%. Religions: Protestant 57·6%; Roman Catholic 41·1%; Jewish 0·5%. Chief towns (pop., est. 1946): Berne (cap., 136,700); Zürich (360,500); Basle (170,300); Geneva (137,600); Lausanne (99,300). President of the confederation for 1949, Ernst Nobs (*q.v.*); vice president of the federal council (government), Dr. Max Petitpierre (*q.v.*).

History. While the foreign relations of Switzerland in 1949 continued their course without any noteworthy change, attention was focused upon the foreign trade situation and an internal crisis which was both financial and constitutional. There was a noticeable trade recession in the first half of the year. This included a tendency unwelcome to the Swiss, who expect to import more than they export (paying the deficit out of their foreign assets), for imports to sink faster than exports; from July onwards indeed the monthly figure for imports more than once sank below exports. In July and September this was in fact partly explained by the general expectation that sterling was about to be devalued and that it was therefore worth while delaying one's orders. With its trade necessarily dependent to a large extent upon bilateral

agreements Switzerland found its clients quick to get short of Swiss francs while it itself tended to accumulate an uncomfortably large proportion of the world's gold.

Switzerland is an industrial country which is obliged to import nearly all its raw materials and its national life is therefore conditioned by its foreign trade relations. The commercial decline was reflected on the labour market, for almost all foreign labour was sent home while the number of those registered as wholly unemployed, which had been negligible in 1948, rose to a modest monthly average of several thousands.

Prices remained extremely high and, as the boom period had passed, were felt to be oppressive. At one time there was a housewives' strike in the chief towns against the high cost of meat which was so expensive that the average citizen could only afford to eat it twice in the week. In the course of the year there was a diminution only in the cost of clothing. The high cost of living was largely due to a policy of protection of the peasants—scarcely 20% of the total population—for whose benefit heavy duties were imposed upon imported food, whereas food exports were subsidized. In the summer, for instance, 5,000 fatted pigs were exported to Germany because the peasants could not get the prices they wished at home; this cost the government Fr.55,000 to subsidize and therefore caused considerable indignation, both on account of the taxation involved and the lack of meat at a reasonable price on the market at home. The prices of butter, sugar and various fruits were kept very high for similar reasons; it was additionally felt that the official price-control office at Montreux was unnecessarily bureaucratic in its ways. There was a wave of anti-governmental irritation which was probably unprecedented and which first forcibly expressed itself on May 22. On that day two referenda were held, the people being asked to approve (1) the continued use of paper money as legal tender which dated from the devaluation of 1936, and (2) compulsory medical examination for tuberculosis as recommended by the government and both chambers. Both these things were rejected after a bitter campaign against the latter as a piece of army interference with private life.



Philip Mickman (left) of Ossett, Yorkshire, who, in Aug. 1949, swam the English channel in 23 hr. 48 min. being congratulated by Ishak Helmy of Egypt who himself swam the channel in 1928.

The main issue continued to be that of the budget which was only balanced through taxes based upon emergency legislation which was due to expire at the end of the year. On behalf of the federal government it should be made clear that modern circumstances had enormously increased federal administrative costs and that the constitution did not forbid the direct federal taxes that had been introduced by emergency decrees which, moreover, both chambers and the chief political parties had accepted. Further, public opinion, although it rebelled against the high cost of living, approved of preserving the peasantry as a privileged group; it also attributed aggressive tendencies to the U.S.S.R. and believed that large sums should be spent on an up-to-date army and air force in order that Switzerland should be able in all circumstances to sell her neutrality dearly. Finally it was natural that the federal government should wish to have a new financial order worked out within the constitution before it abandoned the special powers which it had used since the unemployment crisis of 1933.

In a country with the democratic traditions of Switzerland, however, emergency decrees four years after the end of the war were bound to be resented, especially as the opposition claimed that the government was using them in order to reduce the autonomy of the cantons. The claim was a shaky one; nevertheless it seemed certain that the government had allowed itself to get out of touch with public opinion. Already in 1946 two "initiatives" had been tabled which demanded a popular vote on the constitutional issue; the actual voting was, however, constantly delayed by the minister of justice and police who publicly belittled the "initiatives." At last it was settled that the first of them which demanded the confirmation of emergency decrees by a popular vote should be held on Sept. 11, 1949. In fact the federal government made plain that it did not take the "initiative" seriously by recommending to the country on July 22 an extension of its special powers for another five years from the end of 1949. This completed popular exasperation.

On Sept. 11, although only 40% of the electorate voted, the first "initiative" was accepted by 281,961 against 272,359 individual votes, and by 12½ cantons against 9½. The actual majority was a narrow one but it created a constitutional crisis, since the sovereign people had protested against the methods adopted by their elected rulers and approved by their elected representatives. The chambers met later in September and in October, and approved a two-year provisional financial programme without which it would be impossible to levy, after the end of 1949, what had by now become basic taxes. The new programme, which abolished the sales tax on essential foods and made other small concessions, was to be submitted to popular approval before the end of 12 months.

On Sept. 11 two other significant events took place. On the one hand an owner of a chain stores and Switzerland's most active demagogue in whipping up resentment against the government was elected as one of the canton of Zürich's two representatives in the Swiss Upper House. On the other the Social Democrats lost control of the municipality of Zürich which had for many years been regarded as a Socialist

stronghold; a week later the devaluation of sterling heralded an employers' attack upon industrial workers' wages on the grounds that some of Switzerland's imports would now be cheaper.

But the Social Democrats were still one of the three parties which dominated the political scene; and the situation was felt to have deteriorated further when at their congress on Nov. 5-6 they voted by a large majority against the provisional financial programme. It was feared that the one Socialist member of the federal council might be asked to resign; this would mean returning to the rigid division of the country between non-Socialists and Socialists which had prevailed until World War II.

On Dec. 15, Dr. Max Petitpierre was elected president of the confederation for 1950 and Eduard von Steiger, minister of justice and police, vice president of the federal council.

(E. Wi.)

Education (1946-47) Elementary schools, pupils 433,332, teachers 13,692; secondary schools, pupils 75,546, teachers 3,043; universities (1947-48) 7, students 13,182, professors and lecturers 1,343; institutions of higher education 2, students 4,547, teachers 427.

Agriculture. Main crops (in '000 metric tons) wheat (1948) 195; oats (1948) 65; barley (1948) 54; rye (1948) 27, maize (1947) 10; sugar, raw value (1947) 22, potatoes (1948) 1,141, tobacco (1947) 3, grape (1948) 112. Livestock (in '000 head). cattle (April 1948) 1,424, pigs (April 1948) 767, sheep (April 1948) 170; goats (April 1947) 189; horses (April 1948) 142, chickens (April 1947) 5,025 Dairy produce (in '000 metric tons). meat (1947) 133; milk (1948) 2,210, butter (1948) 13 2; cheese (1947) 41.

Industry. (1948) Industrial establishments 11,364; persons employed 531,353. Electricity (in million kwh., 1948; 1949, six months, in brackets) 8,640 (3.782).

Foreign Trade. (Million francs) Imports (1948) 4,999, (1949, six months) 1,964. Exports. (1948) 3,435, (1949, six months) 1,637

Transport and Communications Roads (1949)· 10,500 mi. Licensed motor vehicles (Dec 1948): cars 105,954, commercial vehicles 33,926 Railways (1947)· 3,345 mi , passenger traffic 212,990,000; goods traffic 18,213,000 metric tons. Shipping (Dec 1948) number of merchant vessels 12, total tonnage 40,518 Air transport: miles flown (1947) 6,067,000, passenger mi (1948) 49,782,000, cargo net ton-mi. (1948) 779,000. Telephones (1946)· subscribers 744,997.

Finance and Banking. (Million francs) Budget· (1948 est) revenue 1,800, expenditure 1,787; (1949 est) revenue 1,423, expenditure 1,428 National debt (Dec. 1948; in brackets, Dec. 1947). 10,959 (10,914). Currency circulation (Sept. 1949, in brackets, Sept. 1948) 4,702 (4,650). Gold reserve (Sept 1949; in brackets, Sept 1948) 1,423 (1,334) million U S dollars. Bank deposits (June 1949, in brackets, June 1948)· 5,324 (4,712). Monetary unit *franc* with an exchange rate (Dec. 1949; in brackets, Dec. 1948) of Fr 12 12 (17 35) to the pound.

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SYDNEY, capital of New South Wales, the largest city of Australia and third largest city of the southern hemisphere. Pop. (June 30, 1947, census): 1,484,434. Lord Mayor, E. C. O'Dea.

At the city council elections in Dec 1948 the Australian Labour party gained 18 seats, Civic Reform party 9 and Lang Labour party 2. Alderman O'Dea (A.L.P.) was installed as lord mayor on Jan. 1; in December he was re-elected for 1950. In May, the minister for local government announced his approval of the principles of the county of Cumberland's master plan to control development of the metropolitan and county area; in August a royal commissioner was appointed to investigate objections to the plan by metropolitan municipal councils.

In February experts arrived from Great Britain to report on the city's public transport system, following an announcement of heavy losses and a sharp increase in fares; recommendations included the replacement of trams by buses. A new commissioner for road transport, R. Windsor, was appointed in September. A strike of coal miners (June to August) caused drastic lighting and power restrictions and severe curtailment of transport services and industry.

The composition of the council of the newly established N.S.W. University of Technology was announced in May and the first professors appointed. The minister for education appointed a committee to report on the financial difficulties of the University of Sydney.

The Royal Sydney show (April 9 to 19) was attended by more than one million people. The main theatrical event was the visit of the Stratford Memorial Theatre company, Nov.-Dec. A number of overseas musicians, including Elizabeth Schwartzkopf and Otto Klemperer, appeared during the year.

(W. Fr.)

SYNTHETIC PRODUCTS: *see* CHEMISTRY; PLASTICS INDUSTRY; RAYON AND OTHER SYNTHETIC FIBRES.

SYRIA. An independent Arab republic, formerly under French mandate, bounded by the eastern Mediterranean, Turkey, Iraq, Jordan, Israel and Lebanon. Area: 73,587 sq. mi. Pop. : (1943 est.) 2,860,400, (1947 census) 3,430,310. Religions (1943 est.): Moslem 2,424,700 or 85% (Sunni Arabs 1,721,000, Shia Arabs 12,700, Sunni Kurds 200,000, Sunni Turks 30,000. Sunni Circassians 20,000, Druze 87,200, Alawi 325,300, Ismaili 28,500); Christian 403,000 or 14% (Roman Catholic rites 103,800; [Greco-Melchite 46,700, Armenian 16,800, Syrian 16,200, Maronite 13,400, Latin 6,000, and Chaldean 4,700]; Eastern Churches 288,000; [Greek Orthodox 137,000, Gregorian Armenian 101,700, Syrian Jacobite 40,100, and Nestorian 9,200]; Protestant 11,200); other 1% (Jewish, Yezidi, etc.). Languages: Arabic is the mother tongue of some 86% of the population, but Kurdish, Armenian, Turkish and Circassian are also spoken. Chief towns (pop., 1948 est.): Damascus (cap., 342,000); Aleppo (369,000); Homs (111,000); Hama (82,000); Latakia (the only port, 42,000). Presidents in 1949: Shukri Bey el-Quwatli (until March 30), Marshal Husni ez-Zaim (*see* OBITUARIES) (June 25-Aug. 14) and Hashem Bey Atassi (from Dec. 14); prime ministers in 1949, Khalid el-Azam (until March 30), Dr. Muhsin Barazi (June 26-Aug. 14), Hashem Bey Atassi (Aug. 15-Dec. 13), Nazim el-Kodsi (Dec. 24-25), and Khalid el-Azam (from Dec. 28).

History. On March 30 a section of the army led by Colonel Husni el-Zaim, the chief of staff, overthrew the government, arresting President Shukri Bey el-Quwatli, the prime minister Khalid el-Azam and other ministers, two of whom were later released. The frontiers were closed and a curfew was ordered. In the first of many broadcasts Colonel Zaim said that he had acted to save Syria from a despotic regime. On the following day he said that elections would be held as soon as possible; and the frontier with Lebanon was re-opened. There was no bloodshed or disturbance, and the new regime received a widespread public welcome. Zaim appeared before the Chamber of Deputies on April 1 and received a vote of confidence by a slight majority. Next day he announced its dissolution. A consultative commission was summoned to draft a new constitution. Zaim also proclaimed a policy of internal reform and cordial relations with other countries.

On April 7 it was announced that the president and prime minister, still under detention, had resigned; and Zaim shortly after formed a cabinet in which he assumed the titles of prime minister, minister of defence and minister of the interior. Among the far reaching changes proposed were the transfer of power to the middle classes, the division of large estates, the limited enfranchisement of women and the reform of the civil service. Zaim gave absolute priority of expenditure to the army, with the declared intention of making it one of the strongest in the middle east.

All political parties were dissolved by decree on May 29. On June 25 a referendum was held, all troops being confined to barracks; Zaim's regime and all its decrees were endorsed and he himself elected president by 621,000 out of

762,000 votes. A government was then formed on June 26 with Dr. Muhsin Barazi as prime minister and minister of foreign affairs. The new president also took the rank of marshal.

Syrian finances were in a disastrous condition and heavy taxation was resorted to, including a 15% tax, retrospective to 1940, on the profits of all industrial concerns, businesses and sales of land or houses. Marshal Zaim began consciously to model himself on Kemal Atatürk and openly flouted older Moslem notions of propriety. His popularity began to decline. A number of senior officers, the president's former colleagues and supporters, were dismissed and imprisoned. Arrests of leading men were numerous.

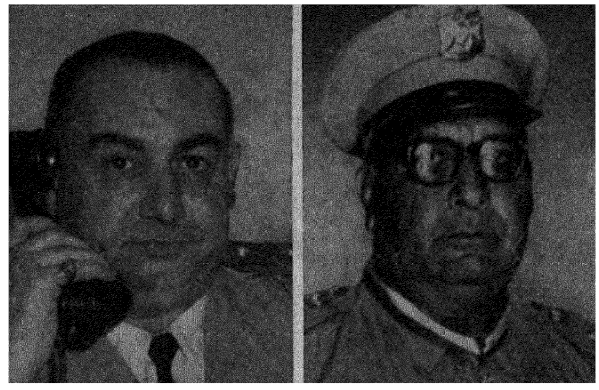
Early on the morning of Aug. 14 a group of army officers led by Colonel Sami Hinnawi, with three armoured vehicles, forced their way into the president's and prime minister's residences, whence both were taken out and summarily shot. It was proclaimed that they had been condemned to death by a supreme war council presided over by Colonel Hinnawi and that the army had acted to save the country from the tyrant who had abused his authority, wasted public money and restricted personal freedom, acting contrary to the spirit of the March 30 coup d'état.

At a meeting in the defence ministry Hashem Bey Atassi, 85 years old, who had once been president under the French mandate, agreed to form a provisional government; and to this Colonel Hinnawi handed over on Aug. 15, returning with his officers to barracks. The main duty of the new government was to pave the way for the early election of a Constituent Assembly to prepare a new constitution.

These events had wide repercussions in the middle east. On April 16 Nuri Pasha, the Iraqi prime minister, and the minister of defence had visited Zaim in Damascus. The Lebanese minister of foreign affairs was also present at the talks. The Iraqis returned to Baghdad next day, not waiting for the arrival of the secretary general of the Arab league (*q.v.*), who came up from Cairo that evening. On April 21 Zaim flew to Cairo where he was received by King Farouk and Egypt's recognition of his regime followed on April 23. Statements by the King of Jordan (*q.v.*) were not well received in Damascus, and on April 27 Zaim declared himself resolutely opposed both to the Greater Syria project of King Abdullah and the "fertile crescent" scheme of Nuri Pasha. At the same time he closed the Jordan frontier, concentrated Syrian forces there, and called up 20,000 men. The frontier was reopened on April 27, but Zaim in a further statement spoke of Jordan as the tenth province of Syria. On May 7 he said that Syria would shift from defensive to offensive opposition to the two schemes, and in a press interview in June was quoted as saying, "when King Abdullah dies I shall take over his kingdom."

Relations with Lebanon (*q.v.*) deteriorated but improved slightly after the termination of the Saadeh episode. By the end of April the Zaim regime had been recognized by Great Britain, the United States, France, Italy, Belgium and Persia. Zaim sought French support and was later to be accused by Colonel Hinnawi of having re-installed in posts of command supporters of the mandate. On April 15 he announced that he wanted strong ties of friendship with Turkey; and at Syria's request the Turkish government, on July 25, sent General Kazim Orbay to advise on the reform of the Syrian army. The general was received with great ceremony in Damascus, where he remained until Aug. 25. Turkey was also asked to admit Syrians to Turkish military schools.

After Zaim's death, the new government was quickly recognized by Jordan and Iraq but not by Egypt and Saudi Arabia. It was assumed to be in sympathy with Nuri Pasha's plan to unite Syria with Iraq under King Faysal II, particularly after a ceremonial welcome had been given to the



Husni ez-Zaim (left) who on March 30, 1949, successfully overthrew the government, and Colonel Sami Hinnawi (right) who led the revolt against Zaim on Aug. 14.

Iraqi regent at Damascus airport, on his way back from London on Oct. 6, in which the prime minister and his cabinet, Colonel Hinnawi and other leaders took part. After mutual consultation, the British, United States and French governments gave recognition on Sept. 20. The Syrian prime minister said on Aug. 18 that the policy of the new government remained without change toward Turkey. But an agreement for the sale to Turkey of 100,000 metric tons of Syrian grain, concluded on July 24, was denounced on Aug. 27, owing to the government's inability to find the quantity required.

The government of Zaim on May 16 had ratified the agreement initialled on Feb. 2 between the previous government and the Arabian American Oil company granting wayleave for the Trans-Arabian pipeline. On June 7 it signed agreements with the Anglo-Iranian Oil company granting wayleave for a pipeline from Abadan to the Mediterranean and providing for the construction of a refinery at Tartous on the Syrian coast. Hashem Bey Atassi stated on Aug. 16 that his government would neither endorse nor repudiate these agreements, which must come before the new assembly for its decision.

Armistice talks with Israel began in April and an armistice was signed on July 20. (C. Ho.)

Parliamentary elections took place on Nov. 15: only 39% of the electorate voted, women voting for the first time. In the result no party gained an absolute majority but the Constituent Assembly of 113 deputies was dominated by the Popular party (led by Rushdi Kekhya, minister of the interior) which gained 44 seats; the elections were boycotted by the National party, of which Shukri Bey was the founder; the Ba'th (left-wing) party secured 7 seats. On Dec. 12 the Assembly elected Rushdi Kekhya its president, the cabinet resigned and on Dec. 14 Hashem Bey Atassi was elected provisional chief of state pending the drafting of a new constitution.

Early in the morning of Dec. 19 a third coup d'état was staged by the Syrian army. Former Colonel, now General Hinnawi, commander in chief of the Syrian army, and his brother in law, Assad Talass, under secretary of state for foreign affairs, were arrested. The leader of the coup, Colonel Adib Shishakli, 41-year-old commander of the 1st motorized brigade, declared that the arrested men were plotting against the republican regime in conjunction with foreign elements. Following the failure of Khalid el-Azam to form a cabinet the premiership was entrusted on Dec. 24 to Nazim el-Kodsi, but he resigned the next day. Hashem Atassi, the provisional chief of state, submitted his resignation on Dec. 26, but the next day the Constituent Assembly refused to accept it.

A new government was formed on Dec. 28 by Khalid el-Azam with Colonel Akram Hawrani, leader of a newly founded Republican party, as minister of defence, and Sami Kabbara, an Independent, as minister of the interior. General Hinnawi was pensioned and Colonel Anwar Mahmud was appointed commander in chief of the army. (X.)

Education. (1946-47) Schools state 870, pupils 127,502, private 344, pupils 48,133; foreign 55, pupils 5,725, universities 1, students 1,722; institutions of higher education 3

Agriculture. Main crops ('000 metric tons, 1948) wheat 550; barley 260, maize 30, rice (1947) 22, potatoes (1947) 15, cotton 7; tobacco 4; olives (1946) 42, lentils (1947) 39; broad beans (1947) 29 Livestock ('000 head): sheep (Dec. 1947) 3,482; goats (Dec 1946) 1,257; cattle (Dec 1946) 371.

Foreign Trade. (1948, with Lebanon) Imports £S468 million, exports £S79 million.

Transport and Communications. Roads (1946) 3,966 mi Licensed motor vehicles (Dec. 1948) cars 3,951, commercial vehicles 3,385. Railways (Dec 1948) 530 8 mi

Finance and Banking. Budget (1948 est) balanced at £S128 million; (1949 est.) balanced at £S131 million Currency circulation (March 1949; in brackets, March 1948). £S240 (182) million Gold reserve of the Bank of Syria and Lebanon (June 1949): 2 8 million U S dollars Bank deposits (Dec. 1948; in brackets, Dec 1947): £S93 (91) million. Monetary unit *Syrian pound* with an exchange rate of £S6·13 (8 83 before Sept 18, 1949) to the pound sterling.

TABLE TENNIS. The world championships were held at the Eriksdalshalle in Stockholm, in Feb. 1949. The men's singles event was won by Johnny Leach of London; Fred Perry last won the event for England in 1929. The men's team event (Swaythling cup) was won by Hungary who beat Czechoslovakia five matches to four. In the Marcel Corbillon cup for women's teams U S.A. beat England, the holders, three games to one. G. Farkas (Hungary) won the women's singles, F. Tohar and I. Andreadis (Czechoslovakia) the men's doubles, H. Flliott (Scotland) and G. Farkas (Hungary) the women's doubles and F. Sido (Hungary) the mixed doubles.

The other great event in the table tennis world, the English championship, was played at Wembley, Middlesex, in Feb. 1949. M. Reisman (U.S.A.) won the men's singles title, beating V. Barna (England) by three games to two. P. McLean (U.S.A.) won the women's singles, beating H. Elliott (Scotland) in three straight games. R. Bergmann and V. Barna (England) won the men's doubles, P. McLean and T Thall (U.S.A.) the women's doubles and R. Miles and T. Thall (U.S.A.) the mixed doubles. (W. J. P.)

TAIWAN: *see* FORMOSA.

TANGANYIKA: *see* BRITISH EAST AFRICA; TRUST TERRITORIES.

TANGIER. From 1912 an international and demilitarized zone of Morocco on the southern shore of the Straits of Gibraltar. Area: 232 sq. mi. Pop.: (Dec. 1938 est.) 60,000; (1940 census) 102,306 including 16,509 Europeans; (mid–1949 est) 150,000 including 30,000 Europeans. Languages: Arabic, French and Spanish. Religion: mainly Moslem. When the one-sided incorporation of Tangier into the Spanish zone of Morocco (Nov. 3, 1940) had been terminated on Oct. 11, 1945, the international administration was re-established with a committee of control composed of the resident consuls general of France, Great Britain, the United States, the U S.S.R., Belgium, the Netherlands, Portugal and Spain. The Soviet representative refused to take his seat on the committee as long as Franco Spain was represented. Italy was re-admitted to the committee on March 8, 1948. The committee of control appointed a legislative assembly of 26 members (4 French, 4 Spaniards, 3 British, 3 Americans, 1 Belgian, 1 Dutchman, 1 Portuguese, 3 Jews and 6 Moslems). Tangier remained under the nominal sovereignty of the sultan of Morocco and his representative (the *mendub*) was Haj Mohammed el Tazi. Administrator (from Aug. 1948), Jonkheer H.L.F.C. van Vredenburch.

In 1949 Tangier could be described as the only genuine international administration and the only absolutely free money market in the eastern hemisphere. The international regime functioned smoothly, the financial position was prosperous, with a large budget surplus, and the local debt was reduced to less than 0·5% of the yearly revenue. There was no income tax and revenue was raised largely by the flat-rate 12·5% duty on goods imported or in transit. The Moroccan franc, equal to the French franc, was the legal currency but any of the world currencies could be legally bought and sold. By Sept. 1949 the number of banks had increased from 10 before World War II to 81. Private enterprise was the key to Tangier's prosperity, but speculation rather than public-spirited investment seemed to be the rule.

TARIFFS. Anticipations of fundamental changes in the tariff systems of western Europe and the Commonwealth failed to materialize in 1949. Although preparatory work for such changes continued, the extent to which efforts towards the economic integration of Europe showed appreciable results in the sphere of tariffs was so far modest. Notwithstanding pressure from the United States, there was no indication of any growing willingness to remove customs barriers. Although the idea of a Western European Customs union appeared less Utopian in 1949 than two years before, it was still far beyond the possibilities of realization in the near future. For the present, progress in that direction was made in three senses:

1. Regional customs unions were being established or planned. In this respect the " Benelux " countries (Belgium, the Netherlands and Luxembourg) achieved concrete results in 1948-49. Although France and Italy signed an agreement for a customs union in March 1948, the scheme was still in its preliminary stage during 1949 and so was the Scandinavian scheme.

2. Efforts were made in 1949 within the framework of the existing system, to lower customs barriers and reduce preferential rates between European and Commonwealth countries. In this respect the results of the tariff negotiations at Annecy, France, during the summer of 1949 were particularly worth noting.

3. The Organization for European Economic Co-operation intensified its efforts during 1949 to achieve progress towards the economic integration of countries sharing in the European Recovery programme. Although these efforts aimed mostly at the removal of obstacles to intra-European trade other than tariffs, attention was also paid to prohibitive tariffs in the plan to abolish quotas on half the imports of member countries from each other.

The results of the regional customs union between the Benelux countries during 1949 were found to be disappointing. This experience made it evident that, although before World War I and to a less extent before World War II, tariffs might have been the main obstacle to the free flow of international trade, during the postwar period they were over-shadowed, at any rate in intra-European trade, by quantitative restrictions and exchange controls. In spite of the abolition of customs barriers between Belgium, the Netherlands and Luxembourg, trade continued to be hampered by the continued existence of quotas and currency restrictions. Negotiations were pursued to remove or mitigate these obstacles in order that trade should be able to benefit by the removal of tariffs.

Towards the end of 1949 efforts were made to extend the Benelux arrangement to include France and Italy. It was suggested that the new organization might be called " Fritalux " or " Finebel." At the same time an attempt was made

to establish some degree of economic union between the United Kingdom and the three Scandinavian countries under the name of "Ukiscan." There was a possibility of including the western zones of Germany in one or the other combinations. Up to the end of the year little actual progress had been made with any of these schemes.

The Organization for European Economic Co-operation was fully aware that quotas and exchange restrictions constituted in existing circumstances a more insurmountable barrier than tariffs. The main effort towards economic integrations was focused, therefore, not on the removal of tariff barriers, but on the mitigation of difficulties to intra-European trade arising from exchange regulations and quotas. In the summer of 1949 an understanding was reached for the establishment of a new intra-European payments system which was expected to go a long way towards facilitating trade between the E.R.P. countries. During the autumn, progress was made on the lines of a proposal put forward by the British government under which the quotas on at least half the member countries' total imports from other O.E.E.C. countries were to be abolished at an early date.

The only important provision which aimed at the reduction of tariff barriers was the proposal that, if any O.E.E.C. country considered that the reduction of the quotas by another country was frustrated by the continued existence of a prohibitive tariff, it might ask the O.E.E.C. to decide whether the goods affected should be counted towards the 50% reduction. If the O.E.E.C. ruled that the exemption of the goods concerned from the quota was, in practice, inoperative then the government concerned, in order to complete the 50%, would have the choice between lowering the tariff on the goods in question or removing the quota on other goods.

Although the Annecy negotiations were not confined specifically to trade between European and Commonwealth countries, these countries constituted a large proportion of the participants which, between them, represented something like 70 to 75% of the world's trade. The original participants included Australia, Belgium, Canada, Ceylon, France, India, Luxembourg, the Netherlands, New Zealand, Norway, Pakistan, Southern Rhodesia, South Africa and the United Kingdom. The countries which adhered to the group during 1949 included Finland, Greece, Italy and Sweden.

The 23 original participating countries negotiated a series of tariff agreements at Geneva, Switzerland, in 1947. The object of the Annecy negotiations was to negotiate further tariff agreements between these countries and the 11 acceding countries. The proceedings involved 147 separate negotiations between pairs of countries. The new members revised their tariffs as a condition of their adhesion to the general agreement on tariffs and trade and the 23 original members made reciprocal concessions for their benefit. The significance of these mutual concessions was enhanced by the operation of the most-favoured-nation rule under which concessions made by any participant to another would be equally available to other members, whether old or new.

In general these agreements succeeded in binding tariffs and margins of preference at their existing level rather than reducing them. In view of the temptation to safeguard home markets and develop regional trade to the exclusion of other countries, even this fixing of the rates at the existing levels was considered an achievement. The United Kingdom undertook to bind duties or to bind the duty-free entry of goods, the total imports of which amounted to £73,900,000 in 1938. Of this amount £22,400,000 related to imports on which the United Kingdom had undertaken to bind duty-free entry; most of the goods concerned were raw materials such as wood pulp. The United Kingdom also agreed to extend to European softwood the tariff reduction granted in favour of American softwood in 1947. In two instances affecting certain iron and steel items the United Kingdom agreed not to increase duties beyond certain maximum rates.

The United Kingdom consented to reduce the margin of preference in the case of cod liver oil and certain types of cheese below the minimum level agreed with Commonwealth countries. This was done in agreement with the Commonwealth countries concerned and the latter were able to obtain counter-balancing concessions in their negotiations with countries which benefited by the reductions. The most important preference items affected by the Annecy agreements was unwrought aluminium on which the United Kingdom undertook to eliminate the duty. The value of imports from Commonwealth countries (principally Canada) was £2,900,000 in 1938. Canada obtained compensation for loss of the preference margin on this item by direct negotiation with Norway, in whose interest the concession was made.

The British government also agreed, at the request of other Commonwealth countries, to the reduction by them of certain margins of preference granted to the United Kingdom at Ottawa or in subsequent agreements. The value of the trade affected by these concessions was very small.

The value of trade from which the United Kingdom was expected to benefit directly or indirectly from agreements not to increase duties and from reductions of duties was £22 million in 1938, including about £17½ million in respect of the Scandinavian countries alone. The value of corresponding trade items after World War II was substantially larger. In addition to benefits arising from concessions made by the acceding countries, the United Kingdom also anticipated gains from concessions made by other contracting parties to acceding countries. For instance, concessions made by the United States on items in which the United Kingdom had an interest tended to benefit British trade which had amounted to about £500,000 in 1938.

In respect of the Annecy tariff concessions, as with regional customs unions schemes and O.E.E.C. schemes, it was well to bear in mind that trade between most participating countries was hampered more by quotas and exchange restrictions than by customs duties. All European countries were using quotas extensively and Canada was the only Commonwealth country which did not apply them to any considerable extent. Nevertheless, it would be a mistake to underrate the importance of the trend towards tariff reductions. In a sellers' market, such as existed during the early postwar years, the price factor was of secondary importance, so that even high tariffs would not have prevented the free movement of goods across the barriers if it had been possible to remove the quotas and exchange restrictions. Since, however, a buyers' market developed in the meantime, or was about to develop, in almost every line of goods, tariff rates were coming into their own as factors determining the international flow of goods. As and when quotas and currency restrictions are removed or mitigated, the importance of tariffs in international trade tends to increase. Hence the provision in the O.E.E.C. proposal of quota cuts, aimed at preventing these cuts from becoming nullified by high tariff rates which, in a buyers' market, could easily prove prohibitive.

It was agreed at Annecy that the participating governments would endeavour to follow up the Geneva and Annecy agreements by an attempt at further reciprocal tariff concessions on a larger scale. To that end it was arranged that there should be another international conference on tariffs in 1950, in which 61 nations were expected to join. Meanwhile the O.E.E.C. negotiations for the elimination or mitigation of quotas were also expected to make progress, and intra-European payments further to be facilitated. Pressure from the United States in favour of the removal of tariffs

and other obstacles to free trading in western Europe was on the increase, and apprehension that congress might be reluctant to pass further E.R P. instalments unless adequate progress was shown in that direction provided a powerful stimulus to the negotiations conducted to that end.

Progress achieved or anticipated in respect of the removal of trade barriers in Europe was confined almost entirely to western Europe. Czechoslovakia was the only country behind the " iron curtain " which participated in the Annecy negotiations. (*See* also EXCHANGE CONTROL AND EXCHANGE RATES; INTERNATIONAL TRADE.) (P. EG.)

TASMANIA: *see* AUSTRALIA, COMMONWEALTH OF.

TAXATION. There were no very striking new departures in 1949 in the taxation systems of the European and Commonwealth countries. During earlier postwar years some of the former countries embarked on new experiments, such as a tax on wealth acquired during the German occupation, a capital levy or a tax on capital gains. By 1949 these experiments—which involved once-for-all levies rather than recurrent taxation—were concluded and taxation in the countries of western Europe was running, for the most part, on traditional lines. The main differences between the 1949 taxation systems of Europe and the Commonwealth and those of 1939 may be summed up as follows: (1) rates of taxation were everywhere well above prewar levels; (2) the wartime reversal of trend in favour of indirect taxation was maintained, though in many instances the rates of indirect taxes were reduced after World War II; (3) taxation was guided, to a larger extent than before World War II, by political and social rather than economic considerations; (4) even to the extent to which taxation was guided by economic considerations, fiscal considerations proper played a subordinate part compared with considerations of general economic policy; (5) even though the wartime increase in the number of direct tax-payers was not fully maintained, it remained well above prewar level, partly through a lowering of the exemption limits and partly through an increase of the nominal wages of lower-paid workers; (6) income tax and death duties remained at their wartime high level on large incomes and fortunes.

In the United Kingdom taxation receipts continued their uninterrupted postwar rise. Actual receipts during 1948 49 amounted to £3,667 million, an increase of £155 million compared with budgetary estimates. As in previous years this increase was mainly the result of the satisfactory yield of the income tax which was £1,367 million, compared with £1,189 million for the previous fiscal year, and exceeded budgetary estimates by £58 million. Practically all other main taxation items showed increases. This was partly caused by the rise of prices and partly by the increase in production. Progress by the Inland Revenue department in its effort to catch up with wartime arrears also helped. On the basis of existing taxation the total receipts from taxes during 1949–50 were estimated at £3,655 million, a decline, on balance, of some £12½ million, due to the anticipated fall of the yield of the special contribution, death duties, stamp duties, profits tax and excise. On the other hand, a further increase of the proceeds of income tax, surtax and customs revenue was anticipated. Changes in taxation in the budget for 1949–50 disappointed those who expected substantial concessions in order to compensate workmen for abstaining from pressing wage claims. The only concession of this nature was a slight reduction of the beer duty. The proposed simplification of death duties was expected to produce an additional yield of £11 million; but the repeal of some obsolete stamp duties was expected to cost £1½ million. After allowing for these and other changes the taxation receipts for 1949 -50 were estimated at £3,632 million.

During the three quarters ended Dec. 31, 1949, the yield of income tax at £562 1 million showed an increase of £3·8 million compared with the corresponding period of 1948. Surtax increased by £12·3 million to £48·3 million, death duties by £11 5 million to £143·4 million, profits tax by £60 3 million to £200 2 million. On the other hand, stamp duties yielded £3·4 million less at £38·9 million, excess profits tax declined by £37·7 million to £31·8 million, special contribution by £15 3 million to £17·1 million, customs by £13 million to £611 9 million and excise duties by £25·1 million to £526·7 million. Generally speaking direct taxes showed better results than indirect taxes.

Commonwealth. In Australia total revenue for the year ended June 30, 1949, was £A535 million, which was £A43 million above budgetary estimates. It reflected the rapid rise in commercial turnover and incomes but was partly caused by the overtaking of taxation arrears. Revenue from the sales tax was particularly buoyant.

In Canada the wartime increase in the number of direct taxpayers was decidedly reversed in 1949. Under concessions granted in the budget for 1949 some three-quarter million taxpayers ceased to pay income tax and were even refunded what they had paid after Jan. 1, 1949. Various indirect taxes were also cut. The 8% sales tax on fuel oils was removed. The 15% tax on travel tickets, telegrams and cables and long distance telephone calls was repealed; and the duty on cider was lowered from 50 cents to 25 cents a gallon. The tax on soft drinks, sweets and chewing gum was dropped. Cuts of between 10% and 25% were made in the tax on jewels, suitcases, fountain pens, lighters, etc.

In Ceylon, on July 14, 1949, the finance minister announced the government's decision to reduce customs duties and income tax on lower incomes. This was decided in spite of the reduction of the revenue surplus from Rs. 32 million in 1948–49 to Rs. 2 million in the estimates for 1949 50.

India's budgetary deficit for 1949 50 was estimated at £20 million. To deal with it, the government introduced new excise duties on tea, cigarettes, coffee and tyres. The clothes export duty was converted into an *ad valorem* duty of 25%; handloom clothes were exempted. Export duties on oilseed and vegetable oil and import duties on motor cars were raised; the latter from 45 to 50%.

In New Zealand taxation yielded in 1948 -49 £NZ130 4 million and estimates for 1949 -50 were £NZ132·7 million. For some years in succession the yields of taxation had exceeded budgetary estimates, because the finance minister had not budgeted for the continued rise of prices and of business activity. In the budget for 1949–50 some moderate concessions were made in respect of the amusement tax.

Europe. In the Czechoslovak budget for 1949 the outstanding change in taxation was the unification of the various types of purchase tax, such as turnover tax, luxury tax, railway transport tax, etc. The new unified tax was expected to yield Kc. 50,713 million, compared with the yield of the old turnover tax of Kc. 12,426 million in 1948. Considering that the total revenue in 1949 was estimated at Kc. 89,320 million, against Kc. 56,895 million in 1948, it became evident that the country's fiscal system was now based overwhelmingly on this new turnover tax. Accordingly, the yield of direct taxes was expected to decline from Kc. 16,621 million to Kc. 14,791 million and that of stamps from Kc. 4,679 million to Kc. 2,094 million.

In France total revenue for the fiscal year 1948–49 was estimated at Fr. 1,250,000 million, compared with Fr. 924,000 million for 1947–48. Taxation receipts alone increased from Fr. 769,000 million to Fr. 1,069, million. The devaluation of the franc in 1948 and the continuous rise in prices was chiefly responsible for this rise. At the end of 1949 the government

introduced new taxes to eliminate the budgetary deficit. They included a tax on transactions of government corporations—an unusual instance of a government taxing itself—a tax on undistributed profits and a tax on road transport.

In Italy the government was experimenting with a change in the system of assessment of income tax. Hitherto the presumption had been that everybody declared only a fraction of their incomes. In July 1949 the finance minister, Enzio Vanoni, proposed a "new deal" to taxpayers for a more equitable assessment of taxable incomes Under the existing system those who were honest enough to declare their full earnings, or those who were not in a position to conceal part of their earnings, bore an unduly heavy burden. In the future the taxpayers were to be pressed for more accurate information but in return the rates would be lowered. Thus for an income of L 1 million the rate would be reduced from 18 to 13%. Notwithstanding such a substantial reduction the government hoped to increase the yield of income tax through less evasion. The new system was to operate retrospectively; but if the evasion was not in excess of a certain amount there would be no supplementary assessment on past incomes.

The Netherlands, having succeeded in balancing their budget, adopted the course of shifting the burden slightly from direct to indirect taxation. There was a moderate cut in the tax on income from commerce and wages and an increase of the turnover tax by ½ to 3½%. Petrol excise duty was also raised. The formula adopted was that taxation must be shifted from earning to spending, to strike a fairer balance between producers and consumers

Portugal introduced a new purchase tax for the first time in its fiscal history. The object was to use the proceeds to create an export subsidy fund. There was to be a tax on motor vehicles, ranging between 15 and 50% of their retail prices.

Spain increased direct taxation by 5% from the beginning of 1949, in order to provide means to extend social insurance. In the budget for 1949 direct taxation was estimated at P. 6,185 million and indirect taxation at P. 6,553 million

Switzerland's budget estimate for 1950 showed revenue of Fr. 1,151 million and expenditure of Fr 1,466 million. New federal taxes were adopted to yield Fr. 470 million.

During the brief period between the devaluation of many Commonwealth and European currencies and the end of the calendar year there was no evidence of any change in the yield of taxation. Nor did measures adopted by most governments following devaluation include new taxation. For the most part the budgetary effort to ensure the success of devaluation aimed at cuts in expenditure rather than the introduction of new taxes, the assumption being that the rise in prices as a consequence of devaluation would in any case ensure an increased yield of both direct and indirect taxes. An alternative to raising taxes was the raising of prices of controlled goods, for example, bread in Great Britain and petrol in France, to absorb consumers' purchasing power and to avoid increasing the burden of subsidies. (P. EG.)

United States. A transition from a postwar period of surplus revenues and debt reduction to the recurrence of deficits marked the federal government's fiscal year 1949. The Revenue act of 1948, enacted over a presidential veto, was estimated to have reduced federal revenues from individual income taxes by $5,000 million per year. Faced, in Jan. 1949, with the possibility of a deficit, but chiefly as a measure of inflation control, President Truman recommended to congress measures to increase revenue from taxation by $4,000 million, chiefly by increased taxes on corporate income, supplemented by increased estate and gift taxes. The president also recommended careful study of the increase of rates for the individual income tax in the middle and upper income brackets.

A congress which showed little inclination to increase taxes and which had failed to act upon the January recommendations received further Presidential tax advice in July. By this time, the fiscal year 1949 had closed with a deficit of about $1,800 million, and a drop in business activity and in employment had become clearly defined. Taxes as a measure for inflation control were no longer desired, and in his midyear economic report the president advised that "no major increase in taxes should be undertaken at this time" Estate and gift taxes were an exception, however, and the president again advised increases in their rates, to recover the revenue lost under the Revenue act of 1948 No response was forthcoming from congress

By the end of 1949, the business decline of the early part of the year had modified, and the Department of Commerce estimated that the year would show a national income of $222,000 million a decline of only 2% from 1948. Nevertheless, governmental expenditures had continued to run in excess of receipts and a deficit estimated at $5,500 million was in prospect for 1950 fiscal year unless authorized expenditures should be sharply curtailed or taxes increased. At the beginning of an election year, neither alternative seemed to appeal to congressional opinion; instead there was greater support for a programme for reducing federal excise taxes.

Carrying forward a policy designed to facilitate international trade and to encourage international investment and enterprise, the State Department and the Bureau of Internal Revenue continued to negotiate with other nations treaties designed to eliminate or minimize the barrier of international double taxation, particularly in the fields of income and estate taxation, and at the same time to prevent evasion. At the beginning of 1949 income tax treaties were in force with Denmark, France, the Netherlands and Sweden, and income and estate tax treaties with Canada and the United Kingdom. Awaiting ratification were income tax treaties with Belgium and New Zealand, an income and estate tax treaty with the Union of South Africa and a treaty, plus an amendatory protocol, with France covering estate taxes and modifying the earlier income tax treaty. Negotiations with other nations were in progress.

In 1949, ratifications of the pending treaty with France were exchanged, and it became effective. The income tax treaty with Belgium, signed in 1948, was submitted to the Senate, and an income and estate tax treaty with Norway was signed and submitted for ratification. Preliminary conversations, or negotiations, looking toward income and estate tax treaties with three American nations, Brazil, Columbia and Cuba, were announced by the State Department in June and July, and with Argentina in Dec. 1949.

Increasing costs of government and increasing demands upon government had caused the steady increase in state and local taxes to continue. The frequency with which state and local governments, seeking new or increased revenues, turned to consumer taxes which tended to bear most heavily upon lower and middle income groups distressed many economists.

Indicative of the trend of state and local taxation and the increasingly important part such taxes were playing in the general fiscal problem were figures released in 1949 showing that, though federal tax revenues (excluding payroll taxes for social security) reached their peak of $42,477 million in 1945, and thereafter dropped to less than $40,000 million annually, total federal, state and local tax revenues (excluding payroll taxes) reached a peak of $53,246 million in postwar 1948, as compared with $51,670 million in 1945. Estimates of 1949 total revenues put them on levels comparable with those of 1948.

In per capita terms, the burden of state taxes (including payroll taxes) for 1949 ranged from $91 19 per person in

Louisiana, to $35·92 in Nebraska, with an average of $57·43. State legislative activity in 1949 was frequently directed toward increasing rates on the more prevalent forms of taxation. Petrol taxes existed in every state, ranging from 2 cents per gallon in Missouri (subject to referendum action in 1950 which might raise it to 4 cents) to 9 cents in Louisiana. In 1949, 13 states increased their rates, the most common increase being 1 cent per gallon. Cigarette taxes existed in 39 states prior to 1949, ranging from 1 cent per standard packet in West Virginia to 8 cents in Louisiana. In 1949, such taxes were imposed for the first time by Delaware (2 cents) and the District of Columbia (1 cent); ten states increased their rates, and Arkansas decreased its rate from 6 cents to 4 cents. Florida and the District of Columbia introduced general sales taxes in 1949; rates were increased in four states in 1949. Taxes on personal income of varying scope were imposed by 32 states and the District of Columbia; 1949 witnessed rate increases in nine of these states. In addition to such state taxes, a growing number of cities and counties imposed additional local taxes on sales generally, or on the sale of such products as cigarettes and petrol. (*See* also BUDGET, NATIONAL.) (X.)

TEA. Tea production in India and Pakistan in 1948 totalled slightly more than 600 million lb., and production in 1949 was estimated at about the same level. Production in Ceylon in 1948 totalled slightly less than 300 million lb. and reports for 1949 indicated little change. Production in Indonesia, which averaged 165 million lb. in 1934-38, was estimated at only 28 million lb. in 1948 but in 1949 reached approximately 45 million lb. There were no official figures for China. Estimated production in 1949 was higher than in 1948, but still well below the prewar level. Japan's output in 1948 totalled about two-thirds of the average prewar production of 100 million lb. and in 1949 was probably heavier as a result of the increase in the planted area. British East Africa produced 15 million lb. in 1948 and Nyasaland 14 million lb. Production in 1949 was estimated at a slightly higher level.

Since output in most of the chief producing countries declined as a result of World War II, exports on a large scale were again confined mainly to India, Pakistan and Ceylon. India and Pakistan exported 435 million lb. in 1947-48, but exports in 1948-49 declined to 379 million lb. Over two-thirds of the total in both seasons went to the United Kingdom. Exports from Ceylon were larger than in the immediate prewar years, rising from 287 million lb. in 1947 to 296 million lb. in 1948. Exports in 1949 were about the same as in 1948. The United Kingdom was again the chief market. Indonesian exports in 1948 totalled only 20 million lb. compared with an average output of 160 million lb. in 1934-38; but reports indicated that exports in 1949 were heavier.

When the international allocation of tea supplies ended in 1947, the Ministry of Food in the United Kingdom was concerned solely with procuring supplies for the home market. Nevertheless, imports of tea into the United Kingdom exceeded the total imports of all other countries and in 1948 and 1949 amounted to 415 million lb. and 474 million lb. respectively. Average annual imports before World War II totalled about 450 million lb. The United States was the second largest importer of tea, taking 91 million lb. in 1948 and about the same quantity in 1949. Australia received 49 million lb. in 1948 and imports in 1949 were at a slightly lower level. Canada took 36 million lb. in 1948 and imports during 1949 showed a slight increase. No other countries imported tea on a large scale. (J. E. CE.)

TEACHERS, TRAINING OF. No striking developments were announced in 1949; the year was one of steady but not rapid advance. A possible exception to this generalization was the launching by New Zealand of an emergency training scheme similar to that now concluding in England. The first course began in September, with 200 students. The minister of education had in January set up a committee to examine methods of teacher training.

In February Canada reported a gratifying increase in the numbers of students in teacher training colleges—10,761 as against 7,833 in 1948. In February the British Council announced a programme of teachers' courses for oversea visitors double that of 1948.

In June the minister of education (for England and Wales) announced the establishment of a National Advisory Council on the Training and Supply of Teachers, representative of the local education authorities, the teachers, the universities and the area training organizations for which the university Institutes of Education were responsible. The duty of the council was to keep under review national policy on (a) the training and conditions of qualifications of teachers; and (b) the recruitment and distribution of teachers in ways best calculated to meet the needs of the schools or other educational establishments. The council was not to concern itself with teachers' salaries, superannuation or other matters affecting their condition of employment.

In August the Scottish Education department announced that after 1949-50 pupils intending to be teachers would no longer be able to take the first year of training at school. All not proceeding to a university would have to do at least three years in a training college. To qualify for entry students must have passed the leaving certificate in at least five subjects, including English and history or geography, and in at least two of these, including English, at the higher grade.

An interesting experiment designed to broaden the outlook of teachers in training was held in April at the International Folk high school, Elsinore, Denmark, when 130 students from English training colleges met in conference with 30 Scandinavian teachers and students and others from Africa, Australia and New Zealand. Lectures introduced and elaborated visits which included urban and rural schools, folk high schools, dairy and other farms.

In Germany U.S. Military government held in March an important conference to discuss the future of teacher training in Bavaria, which presented special difficulties owing to the system set up by the nazis of training students between the ages of 14 and 20 in secondary schools. In July and August an international conference of training college staff and students was held at Dortmund. Novel features were that two of the three weeks were spent largely in visits to colleges, schools, factories and so on, and that the members were accommodated with private families. (H. C. D.)

TECHNICAL EDUCATION. International exchange of people for technical training continued to increase during 1949. At the second conference of the International Association for the Exchange of Students for Technical Experience, held in January at Copenhagen, it was announced that arrangements were made for 1,262 exchanges in 1949 as against 920 in 1948. This association developed out of the vacation work scheme begun by the Imperial College of Science and Technology, London, in 1946 when 46 British and foreign students were exchanged. The number of exchanges rose rapidly so in Jan. 1948 a conference of organizers was held in London, the international association formed and central organizations set up in the ten member countries. In 1949 the scheme was broadened to include students from all universities and university colleges in Great Britain. Offers of financial assistance were received from several large industrial concerns.

In August the University Grants committee of Great Britain

announced that about 50 post-graduate scholarships, financed by funds provided by the Economic Co-operation administration, were to be awarded to British students to study technology at universities and technical institutions in the United States. Awards would be tenable for one year with possible extension for a second, and would cover travel expenses in the United States, fees, books and a maintenance grant of $1,800 a year. Passage to and from the United States was to be met by British public funds. The first awards were to be taken up in Feb. 1950.

The relationship between the technical college and the university continued to be a subject of acute controversy in Great Britain. At the summer meeting of the Association of Technical Institutions held at Edinburgh in June, Dr. D. S. Anderson, principal, Glasgow Royal Technical college, declared that only at Belfast, Glasgow and Manchester was there co-operation on a broad basis implying equality in partnership, and that co-operation on a basis satisfactory to the technical institutions seemed to have reached its limit.

Four solutions were being canvassed in technical college quarters: (i) affiliation with the local university, and award by it of degrees in higher technology; (ii) awards (degree or diploma) made by the technical college and sponsored by the local university; (iii) an award made by the college and sponsored by a national body (*e.g.*, a National Board for Higher Technological Studies); and (iv) preparation by the technical college of students for London external degrees, as was already done by some colleges. Opinion was much divided but on the whole in favour of a degree rather than a diploma. This view found support at the annual meeting of the Association of Education Committees (England and Wales) which in June unanimously recommended the establishment of a national body empowered to grant qualifications in technology of graduate status.

In September was celebrated at Helsinki the centenary of Finland's Institute of Technology. Opened as a technical school on Jan. 15, 1849, in consequence of a statute issued in 1847 prescribing the foundation of schools to provide "youths who wish to have a career in industry with an opportunity for all the necessary training," it became in 1872 a polytechnic school and in 1879 a polytechnic institute admitting only matriculated students. In 1908 it received its present name and was put under the control of the Ministry of Trade and Industry. By the end of 1949 it had 2,200 students in five departments; architecture, chemistry, wood technology, civil engineering and mechanical engineering.

Belgium reversed its traditional policy of controlling technical education by the advice of an educational council and set up a new co-ordinating council on which were represented the Ministries of Education, Economic Affairs, Agriculture and Economic Co-ordination and Re-equipment, public and private technical teaching bodies and employers' and workers' organizations. The change was intended to relate technical training to national economic needs. (H. C D.)

TELEGRAPHY. The final legislative step in the co-ordination of the nationalized overseas services in the United Kingdom, Canada, Australia, New Zealand, India and Southern Rhodesia was taken on May 31, 1949, when the Commonwealth Telegraphs bill became law. This act provided for the integration on April 1, 1950, of the operations of Cable and Wireless, Ltd., in the United Kingdom with those of the post office and for the establishment of the Commonwealth Telecommunications board to co-ordinate the operations of the services in various countries. After April 1, 1950, Cable and Wireless, Ltd., would remain in being as a government-owned commercial company operating the cable network and the wireless services in the British colonies and certain foreign countries. It would continue to operate the United Kingdom cable station. In order to secure the advantage of full integration of the telegraph and telephone services with all parts of the world, an External Telecommunications board was set up, composed of representatives of the post office, the company, the Treasury and the Colonial Office.

Continental Telex service was extended during the year to Copenhagen, Oslo and Stockholm. Communication with subscribers to the Danish network was established by direct dialling over telegraph circuits from the London switchboard, as in the case of calls to subscribers on the Swiss and Czechoslovakian networks. Traffic to Oslo and Stockholm was switched manually at Copenhagen, the Copenhagen operator completing Stockholm calls by dialling Connections to subscribers in other countries were effected *via* manual teleprinter switchboards situated in the European capitals.

The Cable and Wireless central telegraph station, Electra house, London, was largely re-planned. A new automatic teleprinter concentrator system was installed to which most of the teleprinter circuits terminating at Electra house were connected. Electra house was also connected with the post office inland teleprinter switching system.

The Cable and Wireless training school, situated in London for many years, returned to its original home, the Porthcurno cable station, Cornwall. The new school was partially opened by the end of 1949; after completion of the school, the cable station would be moved to new buildings.

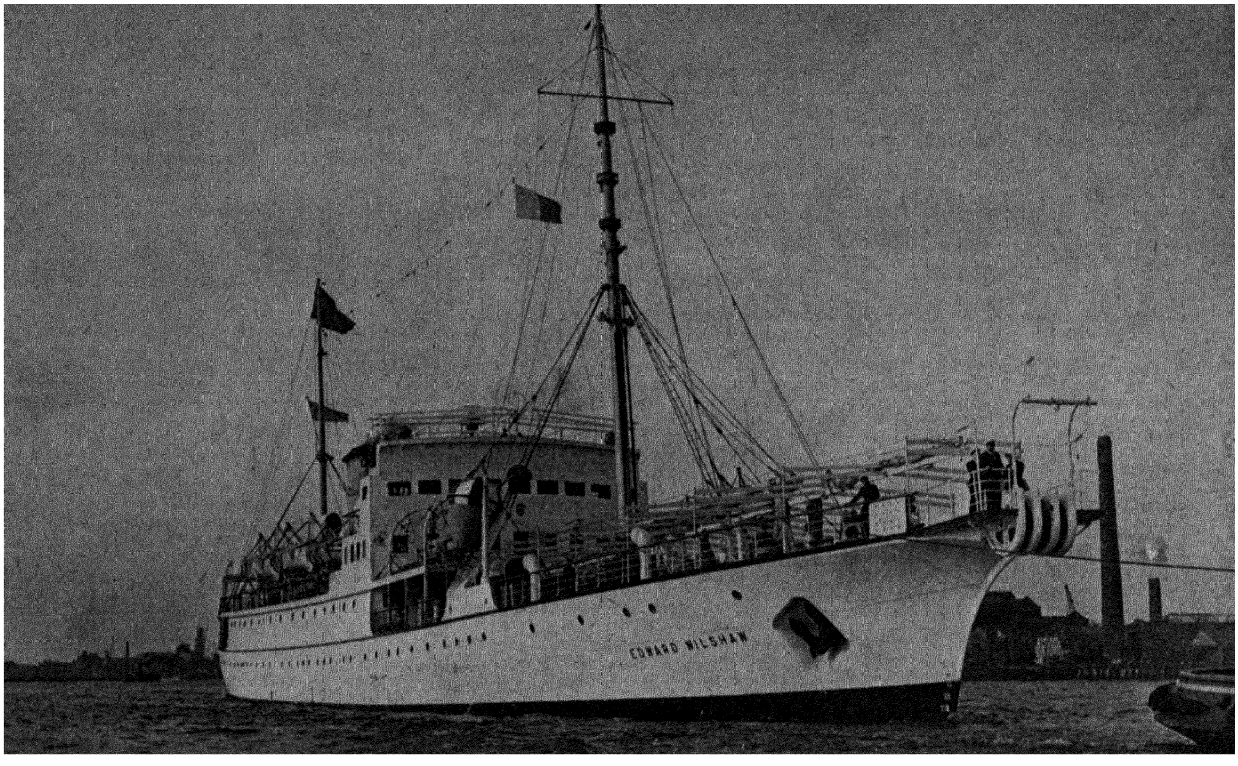
Considerable progress was made in the development, production and distribution of new equipment, including cable channelling units, cable code converting transmitters, and double current cable code sending and receiving units. Further progress was made towards maintaining and developing the company's 155,000 nautical mi. cable system.

Direct cable service was restored between London and Hongkong, avoiding the need for re-transmitting messages at Singapore. Building of the new cable station at Jesselton, North Borneo, to replace the war-destroyed station at Labuan, continued. The new cable factory being built at Singapore should be in production by the middle of 1950. Considerable work was done towards restoring the Mediterranean, South American and West Indian systems. Regenerator equipment was installed on many cable links, including the Porthcurno-Vigo cable, several West Indian lines and in connection with certain South American coastal cables.

In July the new 2,247-ton cable ship "Edward Wilshaw," the largest ship afloat built for cable repair work only, left England for her first station, Mombasa, Kenya, to maintain the Indian ocean and Persian gulf cable systems. Her three tanks were capable of carrying 400 nautical mi. of deep-sea cable and her operating range was 9,000 mi. The company's fleet consisted of eight cable repair ships; additionally, ships were chartered from the post office and other organizations when necessary. Cable and Wireless continued to collaborate with the post office in the development of submerged repeaters —valve amplifiers for insertion in cables at close enough intervals to enable a band of frequencies to be carried to provide for multi-channel communication.

On the wireless side, progress was made towards expanding the Barbados and Colombo relay stations and towards building a relay station at Nairobi to provide an alternative circuit for the London-Singapore direct service.

The whole of the external telecommunications services at Hongkong were co-ordinated. Several new wireless circuits were opened to meet requirements arising from the developments in China. Additional radiotelephone circuits were opened to San Francisco and *via* Colombo to London. The company assisted the government of Pakistan to establish overseas radiotelegraph and radiotelephone circuits.



The cable ship "Edward Wilshaw" which left London on July 28, 1949, on her maiden voyage to Mombasa, Kenya.

New transmitting and receiving stations were erected in Cyprus. In addition to radiotelegraph and radiotelephone circuits, Cable and Wireless (which operated the inland telephone as well as the oversea services) took over responsibility for civil aviation communications in the colony.

Following the opening in late 1948 of radiotelephone service between Accra and Lagos, both stations were linked with Sierra Leone early in 1949; a circuit was opened between Bathurst and the other three stations; and, through Accra, connection was provided with London. Many extensions were opened to the West Indian radiotelephone services.

In 1949 single sideband working was introduced over many of the Cable and Wireless radiotelephone networks, with the anticipated improvement in circuit quality. On Sept. 1, Cable and Wireless opened a direct photo-telegraph circuit between Athens and London. New equipment was distributed for opening further services with centres in the company's system.

The post office installed new picture telegraph equipment in the central telegraph office, London, and was able to re-open the European wire services in time for the Olympic Games. Service was now available by wire to 8 European countries, in addition to 18 European and extra-European services from London by radio (Cable and Wireless).

During 1949 the work of the Cable and Wireless Ionospheric Prediction centre expanded. Working from basic data provided by the National Physical laboratory's radio research department at Slough, the centre plotted every month the range of radio frequencies within which the most effective transmission might be operated during the ensuing month over a very large number of radio circuits throughout the world. At the beginning of 1949 prediction charts were being sent to 120 stations overseas; by the end of 1949 this number had been doubled. The 240 co-operating stations returned the prediction charts with their actual experience during the period plotted, for comparison, and these reports were studied in the centre for guidance towards improving future predictions. Considerable work was also done by the company in providing data to the Cavendish laboratory for the study of radio propagation and with the Radio Research board on the measurement of atmospheric noise. The company continued to collaborate with the Royal Observatory in the study of the effect of sunspots on radio transmission and in investigating the sudden "fades" ("Dellingers") associated with hydrogen flares on the sun's surface.

The United Kingdom was a party to the International Telegraph conference which met in Paris from May-July, 1949. The principal decisions (to come into force on July 1, 1950) were the unification of rates for ordinary telegrams (plain, code and cipher), the abolition of deferred telegrams and the amalgamation of the existing two classes of letter telegrams in the extra-European regime in a single class. Subsequently a British Commonwealth-United States governmental Telecommunication meeting was held in London to revise the Bermuda agreement of 1945. (A. S. A.)

United States. A programme of mechanization and other plant improvements costing $80 million and increasing the capacity and vastly improving the speed and efficiency of the U.S. telegraph service was nearing completion in 1949.

Three big selective high speed switching centres were placed in operation in 1949 at Detroit, Los Angeles and New Orleans, completing 14 of a national network of 15 centres, each tc handle telegrams to and from one or more states. The fifteenth was to be at Portland, Oregon. The centre at Oakland, serving California, was expanded and improved by new installations in 1949. In the switching system, telegrams were typed only at the point of origin and then flashed through the switching centres to their destinations without manual retransmission.

Through the use of carrier systems, it became possible to send as many as 288 telegrams simultaneously over a single pair of wires, or more than 2,000 over a microwave radio beam system such as Western Union had in operation, with towers about 30 mi. apart, between New York, Philadelphia, Washington and Pittsburgh. To interconnect the new switching centres many additional carrier systems were installed in 1949. About 1,650,000 channel mi. of carrier systems were in operation, and 200,000 more were planned for 1950. (W. P. MA.)

TELEPHONE. In conformity with the national policy to reduce capital expenditure, the Post Office in Great Britain continued to restrict its programme of telephone expansion. During 1949 available resources were concentrated mainly on supplying telephone service for waiting applicants, in relieving congestion wherever possible, in making provision for the gradual but sustained increase in local, toll and trunk traffic and in laying the foundation for long term schemes of trunk mechanization. An increase in the allocation of steel and lead somewhat relieved the shortage of essential stores; but the general scarcity of materials still necessitated careful planning.

Experiments in the use of protective plastics for underground cables were continued which, if successful, would dispense with overhead pole routes in rural areas. Provision of telephone service on a sharing basis made it possible to accept thousands of residential applicants who would otherwise have been deprived of service until local exchange equipment or local line plant could be made available. The success of this scheme was due to the introduction both of new distribution methods into the local cable networks that greatly increased their flexibility and of apparatus that enabled sharing subscribers with dial telephones to be charged individually for their dialled calls. In spite of the shortage of building materials some progress was made in the programme of complete conversion to automatic working of all manual exchanges; by March 31, 1949, 3,969 out of 5,848 local exchanges were automatic. Wartime arrears of maintenance of the equipment efficiency of exchanges were also made up and they were restored to almost normal standards.

A new development in the long distance telephone service would enable the operator who accepted the booking from the caller to take control of the call, and plans were made for complete mechanization on this basis of the toll and trunk systems. Voice-frequency carrier systems were extended and other routes converted to this method of working; the capacity of the submarine cable routes to Ireland and the Channel Islands was greatly increased by this means. Progress was made on a new London-Birmingham co-axial cable which should be available during 1950 for the transmission of television programmes. In December when the Midlands television service was opened the programmes were transmitted by a Post Office radio link. Local exchange service development was mainly concerned with the extension of direct dialling by subscribers of all calls within a 15 mi. chargeable radius. Experiments in linking mobile radio stations with the public telephone network resulted in the establishment of a short-range radio link for communication between small craft operating in the Thames estuary and subscribers in the London toll area.

So far as the continental (European) and international radiotelephone (extra-European) services were concerned the year was one of steady development. The service with Germany was extended to include the French zone of occupation and the services with Spain and Portugal were provided by landline enabling 24 hr. service to be given to both places. It was planned to open telephone service with Turkey shortly, leaving Albania as the only European country with which telephone service was not available. New direct services were opened with Pakistan, the Persian gulf (Bahrein) and the British West African colonies, whilst indirect services were either opened or re-opened with Costa Rica, Guatemala, Honduras, Japan, Korea, Nicaragua and Panama *via* New York; with British New Guinea, Nauru and New Britain *via* Sydney; with Algeria, French Morocco, Tangier and Tunis *via* Paris, and with Hong Kong *via* Colombo.

A new Anglo-Belgian polythene dielectric submarine cable was laid: it had a diameter of 1·7 in., a length of 47·15 nautical mi. and was capable of carrying 216 simultaneous conversations without the use of submerged repeaters (G. P. O.)

United States. The U.S. telephone service at the end of 1949 was generally the best and most complete in history; there were more than 40 million telephones, 160 million conversations a day and no distance limit. Long distance calls were being completed at an average speed of about one and one-half minutes, close to the prewar rate, a contributing factor being the further extension of operator toll dialling.

Approximately 2 3 million telephones were added to the U.S. telephone network in 1949, bringing the number added since World War II to more than 13 3 million. The latest available world statistics, compiled as from Jan. 1, 1949, estimated the world total at nearly 66 million telephones, of which nearly 60% were in the United States.

The large volume of construction required to meet the public's telephone needs was indicated by the fact that in the Bell system (serving 33 3 million of the 40·5 million U.S. telephones) over 800 building construction projects, ranging in size from small community dial offices to large central office buildings, were completed in 1949. Some of the projects involved additions and alterations to existing buildings.

Nearly 9,000 toll circuits were added during 1949 by the Bell companies, bringing the Bell system total of such circuits to about 100,000. With the addition of some 375,000 telephones in rural areas in 1949, about half the farms in the U S. now had telephone service—twice as many as in 1940.

The year also saw progress in the development of new techniques and devices aimed at improving service and making it as economical as possible to the user. Bell Telephone laboratories developed a new and better telephone instrument. Field tests of a limited number of these telephones were scheduled to be carried out during 1950. An important transmission feature was an equalizer which automatically adjusts the sound level to compensate in part for the distance between the telephone and the central office. The laboratories also developed a more comfortable, better lighted and ventilated telephone booth. A sealed-in ceiling light fixture equipped with a directive lens concentrated light on the writing shelf and telephone instrument.

A new vacuum tube, capable of relaying a wider band of radio microwave signals over and over again to span longer distances than before, was also developed by the laboratories. Known as the close-spaced-triode (grid and cathode separated by only one-fifth the diameter of a hair), the new tube formed the heart of the improved relay equipment being installed in the New York-Chicago-Omaha radio relay system. The new equipment permitted the simultaneous relaying of six television programmes or thousands of telephone conversations through a single relay antenna.

Another transmission development was a new voice frequency repeater. Used extensively in telephone plant, repeaters were located at regular intervals on long distance circuits to amplify the voice signals progressing along the route.

In Nov. 1949, Boston, Massachusetts, became the sixth

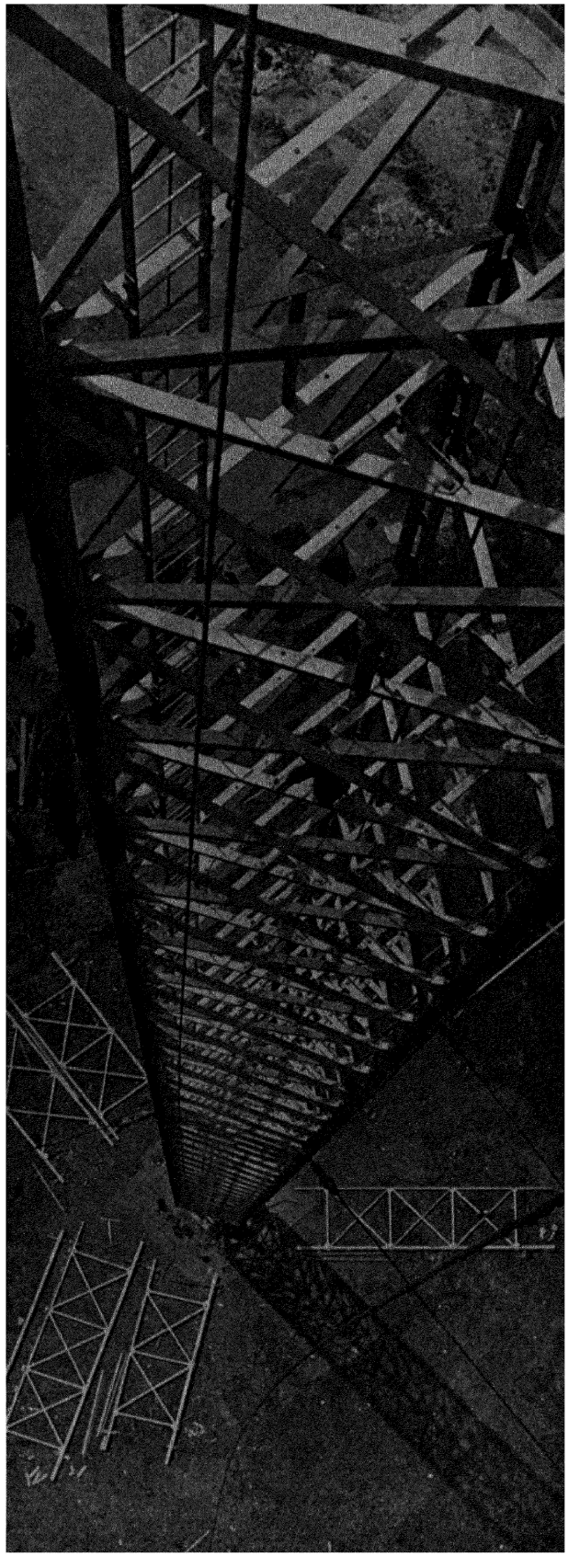
major toll dialling centre in the Bell system's plan for nation-wide dialling of long distance calls by operators.

Construction of the coaxial cable and radio relay network for telephone and television transmission continued to move forward in 1949. By the end of the year, the Bell system television network mileage had grown to about 8,400 channel miles, as compared with about 3,500 mi. at the end of 1948.

(L. A. WI.)

TELEVISION. During 1949 progress outside the U.S. and Great Britain was still primarily a matter of blueprints and optimistic statements intended to allay local impatience. Even in France the number of sets in operation at the end of the year was about one-tenth of the licences issued in Great Britain—20,000 to 200,000. No statistics of this kind were available for the U.S.S.R., the only other country in the world to operate a genuine public service; but it was learned that of the two standard models of receiving sets, one made in Moscow, the other in Leningrad, neither was sold except by special licence. The Moscow Television centre in the middle of the year was transmitting four programmes a week, made up of newsreels, children's hour, plays and opera relayed from the state theatres, films and light concerts. Audiences were encouraged to listen in groups, in clubs and rest centres. Moscow operated on a standard of 625 lines and this showed signs of becoming a world standard, on paper at least, because at a conference of European radio organizations in Switzerland in the autumn, Belgium, Czechoslovakia, Denmark, Germany, Italy, the Netherlands and Switzerland all agreed that it was likely to serve their needs best. Australia and Argentina also settled on 625 lines. Adoption, however, was so far entirely theoretical; only four countries in the European group even embarked on closed circuit experiments and these for the most part consisted of geometrical patterns, not genuine programmes. The European practitioners, Great Britain and France on the other hand, agreed on a common temporary standard of 405 lines (which for France meant a slight reduction), and agreed to consider future co-operation at a higher level of scanning. The way was thus paved for a full exchange of programmes when a cable or radio link was established between the two countries. This was only realistic after it became increasingly obvious that television was a highly expensive entertainment. By the end of 1949, for instance, Great Britain was spending over a million pounds a year on less than a quarter-of-a-million viewers. This inescapable financial fact made it unlikely that any other European country would start a public service for at least two years. To many observers it seemed unfortunate that the smaller countries were not prepared to align themselves with Great Britain and France, since by so doing they would not only have made television a practical proposition for themselves, but would have advanced the cause of European unity.

At the end of the year the B.B.C. opened at Sutton Coldfield, Warwickshire, the most powerful transmitting station in the world, with an aerial 750 ft. high, designed to serve the midlands, but from its first tests it seemed likely to serve also much of the north. Before this, however, the B.B.C. had announced a national plan for bringing television to 80% of the population within five years. This involved the building of three more high-powered stations, in the north of England, in Scotland, and in the Bristol Channel area, and five low-powered stations, working on the same frequency, for the northeast of England, the highlands of Scotland, Northern Ireland and the west of England (2). Completion



Looking down from high up on the mast of the television station at Sutton Coldfield, which was brought into service on Dec. 17, 1949.

of the plan depended on the government's giving permission for the necessary capital expenditure, estimated at £10 million. The acquisition by the B.B.C. of the film studios at Shepherds Bush, London, from the J. Arthur Rank organization gave the hard-pressed programme and technical staff at Alexandra palace hope of better and roomier conditions in 1950. New cameras were installed and a new system of recording direct from the screen was developed by B B.C. engineers. (X.)

United States. At the end of 1949, 98 television stations were operating in the United States on a regular programme basis, which was double the number in operation on Dec. 31, 1948. Over 8,000 miles of network facilities were in use interconnecting more than fifty television stations. In January the east coast and mid-western television networks were inter-connected by an east-west link through Pittsburgh. Additional network extensions were provided to Columbus, Cincinnati and Dayton in the Ohio valley; to Erie and Lancaster in Pennsylvania; to Schenectady, Utica, Syracuse and Rochester in New York state; and to Providence and Wilmington on the east coast.

To provide a programme service to stations not yet served by interconnecting network facilities, programme-originating stations used films made by photographing programmes as they were reproduced on the face of special kinescopes or picture tubes These kinescope recordings were processed rapidly and sent to affiliated stations.

Late in 1948, the Federal Communications commission instituted a "freeze" on applications for television stations in order to investigate the co-channel and adjacent channel interference problems and, if necessary, revise geographical allocations before further stations were actually placed in operation. It had been expected that the engineering studies involved could be made and the hearings completed so that the "freeze" could be lifted early in 1949; but the engineering work was not finished until the middle of the year and, in the meantime, other delaying factors arose The inadequacy of the very-high-frequency channels to provide a nation-wide competitive television system became very apparent and consideration was given to the allocation of ultra-high-frequency channels to provide for additional stations.

Certain proponents of colour television insisted that it had now been developed to the point where a satisfactory commercial television broadcasting service could be provided.

Three specific colour television systems were proposed during a general television hearing of the commission begun in Sept. 1949; a "field sequential" system in which the picture is scanned from top to bottom before a change from one primary colour to another occurs; a "line sequential" system which requires a change in colour for each scanning line; and a "dot sequential" system in which the colour is changed for each picture element or dot.

The Columbia Broadcasting system sponsored its "field sequential" system with standards modified to permit operation in a 6 mc band; the basic system, employing a colour filter disc, was the same as the one which the commission had declined to adopt in 1947. A new "dot sequential" system was proposed by the Radio Corporation of America. Complete compatibility was claimed for this system in that it would permit black and white receivers to obtain black and white pictures from colour transmissions without receiver modification, and with high definition, permitting detail equivalent to monochrome to be transmitted in colour. The "line sequential" system was advocated by Color Television, Inc., of San Francisco, California. This system was also completely compatible in that black and white receivers would not have to be modified and transmission of picture detail would be comparable to that provided by the black and white standards. (*See* also RADIO, SCIENTIFIC DEVELOPMENTS IN.) (G. L. Bs.)

TENNIS. A visit of a strong American team and of P. Etchebaster (France), the world champion, added greatly to the interest of the 1949 season Etchebaster played only exhibition matches, but the American team, in addition to winning the Bathurst cup against Great Britain and France in Paris, took part in the British amateur championship.

Ogden Phipps (U.S.A.) was the outstanding amateur player of the year Besides winning the U S.A amateur championship for the seventh time, he became the first American to win the British championship since the victories of Jay Gould in 1907 and 1908. In the final of the championship at Queen's club he beat W D. Macpherson 3—0 In December Phipps challenged Etchebaster for the world championship in New York, Etchebaster winning by 7 sets to 1.

Macpherson in the summer retained the M C.C. Gold prize at Lords, and R Aird again won the Silver prize. Oxford won the university match 2 - 1, and the Old Rugbeians the Henry Leaf cup (*See* also LAWN TENNIS.) (AE.)

TEXTILE INDUSTRY. In comparison with any other year after World War II, 1949 was a year of consistent progress—technically and commercially—in the textile industry of the United Kingdom. Statistics revealed increased productions in cotton, woollen and worsted, rayon (spun and filament) yarns and in practically all classes of woven fabrics. Export returns proved it to be a year of remarkable achievement in view of increased continental competition. Although many control restrictions were relaxed, there still remained the acute problems of labour shortage, insufficient automatic machinery and the high prices of raw materials.

Board of Trade returns showed that in the first nine months of 1949, imports of raw wool into the United Kingdom totalled 623,000,000 lb. compared with 529,000,000 lb. for the same period in 1948. Re-exports for the first nine months amounted to 103,000,000 lb. which was slightly lower than in 1948. In the same period of 1949 (Jan. to Sept.), exports of wool tops were 44,807,000 lb. compared with 44,095,000 lb. in 1948. Export of woollen and worsted yarns at 18,969,000 lb was a considerable improvement over the 11,818,000 lb. in 1948. For the same period, exports of woollen and worsted tissues totalled almost 81,000,000 sq. yd. compared with nearly 77,000,000 sq. yd. in the same period of 1948. Shipments of blankets were higher than the 1948 figures, and exports of wool waste were 16,019,000 lb. compared with the 1948 figure of 8,260,000 lb. Carpet and rug exports declined slightly from the peak exporting level of 1948

In the British wool textile industry the most outstanding technical development of 1949 was the Ambler "Superdraft" system. Designed to fit easily on to existing worsted "open" type cap, ring and flyer frames, it was essentially a new method for controlling the fibre movement of a twisted roving in the drafting zone. With this new device drafts ranging from 20 to 150 could be employed on wool fibres but the upper limit of draft could be increased for synthetic fibres. In woollen processing, few significant changes occurred but it was noticeable that certain woollen spinning firms who ordered new carding machinery seemed to prefer semi-continental and continental types.

In the cotton industry, machinery developments, improved technique, modernization of equipment and re-deployment of operatives continued on a satisfactory scale. The industry continued to exert itself to provide amenities and welfare facilities equal to those in modern industrial establishments. Few Lancashire spinning mills, however, availed themselves of the government's offer of grants towards cost of machinery re-equipment. The main reason appeared to be a desire to retain their individuality. Nevertheless, in many instances the typical conservative Lancashire attitude did not reject

common-sense progressive policies. More cotton mills adopted shortened processing wherever advantages were obvious; and modern systems of lighting and mechanical handling were increasingly applied.

Production figures were encouraging In the week ended Nov. 19 the total output of yarns was a postwar record of 20,750,000 lb. compared with 19,640,000 lb. for the same period in 1948. Total output for the 46 weeks ended Nov. 19 was 873,520,000 lb. According to the Cotton board, the weaving sections reached their highest postwar level of output in the four weeks ended Oct. 29. The weekly average was 54,320,000 linear yd for the month and production was 8% higher than in Oct. 1948. Production for the 43 weeks ended Oct. 29 was 2,121,050,000 linear yd. The total labour force in October was 300,330, compared with 332,000 in 1939.

No revolutionary developments occurred in the technical field but fibre drafting was the subject of intensive research. Some progress was also noticeable in efforts to combat the dust problem in cotton cardrooms, and more mills pre-oiled raw cotton before subjecting it to opening processes. The most notable invention of 1949 was the "Autodoffer," designed by the British Cotton Industry Research association. This efficient and compact machine was constructed for automatically doffing full bobbins on cotton ringframes. It operated on rails attached to the front of the frame and doffing commenced by pressing a push-button switch The announcement of this machine was timely in view of the labour shortage, for without any human aid it doffed 12 spindles at a time and returned automatically to the end of the frame when doffing was completed; the whole operation took 3-4 min. depending on the length of the frame.

The international textile machinery exhibition at Belle-Vue, Manchester, in October, was an important event. It was the first since 1938 and there was evidence to show that the industry was on the threshold of several radical and important individual developments. For the first time, in many cases, textile managers and executives were able to study and examine the latest postwar machines built in Great Britain, the U.S., France, Switzerland, Czechoslovakia, Belgium, Denmark and Italy.

Despite the difficult conditions of world markets, Northern Ireland continued to export 75% of her linen production; and there was an extension of units spinning woollen yarns, manufacturing carpets and spinning and weaving rayon, etc.

Commonwealth. Wool shipments from Australia were higher than in 1948 and no sooner was the devaluation of sterling announced in mid-September than the market began to climb. Average-to-good fleece showed an average appreciation of 10-12½%. The Australian textile industry steadily expanded and negotiations to establish the first units of a rayon-spinning industry were well advanced. It was intended to form a company with a nominal capital of £A10 million to build factories for production of viscose and acetate rayon and Courtaulds, Ltd , were expected to take a substantial interest in the new company.

In India, the exports of cotton piece-goods to Pakistan were much reduced but there was an increase in other markets. British East and West Africa absorbed increased quantities and there were smaller increases in Ceylon, Australia and Aden. Towards the end of the year the Argentine placed very large contracts for hessian cloths.

The Canadian textile industry was busily engaged throughout the year and, in addition, imported increased quantities of British piece-goods, chiefly woollens and worsteds.

Europe. Textile production increased in most European countries, one of the most important features being the steady increase in Western Germany. Belgium also showed signs of revival but production in general was actually below the 1948 figures. Activity in the French cotton industry recovered and yarn production was at the 1948 level; cloth production was substantially greater. A new French circular loom (Fayolle-Ancet) aroused considerable interest in textile circles. Yarn and cloth production in Italy increased slightly and at least two new looms were announced. Textile production in Holland was now about the prewar level but substantial quantities of textiles continued to be imported from the United Kingdom.

Some astonishing developments occurred in Czechoslovakia. The textile industry increased the output of yarn and cloth to a high level. In addition, the nationalized textile machinery-building industry developed several noteworthy machines, including the Hrdina range of automatic looms and pirn-changing attachments, also the Zbrojovka cone and pirn winders. A new magazine, warping creel and beaming headstock were also announced. (A. Dr.)

United States. In 1949 consumption in the U.S. of the three major fibres—cotton, wool and synthetics—dropped by approximately 20% from the 1948 level. The over-all decline in demand for textile products in 1949 was partly explained by the appearance on the market, in larger quantities, of other types of consumer goods which had been practically unavailable during World War II and scarce during the immediate postwar years. It was also realized that the war demand brought into action practically all available textile machinery, and doubt was expressed that there would be a permanent domestic market for its full output. In addition, other countries were stepping up their textile production.

Synthetics continued to encroach upon the markets of the older fibres, and became available in new and more versatile forms. Wholesale prices of textiles in the U.S. in 1949 were approximately 6% lower than those of 1948, and some textile manufacturers anticipated further declines. (*See* also Clothing Industry, Cotton, Linen and Flax; Rayon and Other Synthetic Fibres; Silk, Wool.)

(D. G. Wo.)

THAIK, SAO SHWE, Burmese statesman (b. 1896), a member of the ruling family of the state of Yawnghwe, in the Southern Shan states of Burma, was educated at the Chiefs' school at Taunggyi, and later accepted a viceroy's commission in the Indian army, serving during World War I in Mesopotamia. On his return, he served in the civil administration of the Yawnghwe state as Myosa, or sub-chief, of the Heho district When the late *Sawbwa* (chief) of Yawnghwe died in 1926, Sao Shwe Thaik was selected by the government of Burma to succeed him, the late Sir Sao Mawng having no direct descendants. As ruler of the fourth in order of importance of the Shan states, Sao Shwe Thaik was a personage of influence. He ruled his state with efficiency, and when war with Japan was threatening in 1941 he took a commission as major in the Shan states territorial battalion of the Burma Rifles. On the withdrawal of the British administration in 1942, he remained in his state, looking after the interests of his people so far as the difficult conditions of the times allowed. When the new constitution for independent Burma had been evolved after World War II, the Burmese political leaders proposed and carried the election of Sao Shwe Thaik as the first president of the country, a gesture of goodwill towards the minority races of Burma. Sao Shwe Thaik assumed office as president on Jan. 4 1948, and continued to discharge the duties of his office with dignity. (B. R. P.)

THAILAND (Siam). A kingdom of southeastern Asia bounded by Burma to the west and northwest, by French Indo-China to the northeast and east and by Malaya to the south. Area: 198,247 sq. mi. Pop.: (1937 census) 14,464,489; (1949 est.) 17,666,000. Languages: Thai or Siamese *c.* 75%,

Chinese *c.* 20%, Indian and Malayan languages also spoken. Religion: Buddhist 95%, Moslem 4%. Chief towns: Bangkok (cap., pop., 1947 est., 827,290); Chiengmai (pop., 1937 census, 544,001); Khonkaen (473,475); Chiengrai (443,476). Ruler, King Phumiphon Adundet (who during 1949 was continuing his studies at Lausanne, Switzerland); prime minister, Marshal Luang Pibul Songgram (*q.v.*); minister of foreign affairs, Nai Pote Sarasin.

History. The new constitution, prepared by a Constituent Assembly during 1948 and submitted to the legislature in Jan. 1949, was finally approved by the council of regency in March. In its general form the new constitution preserved the system of government by king, cabinet and bicameral parliament, the Lower House being elected on a wide franchise and the Upper House nominated by the crown. It also defined in detail the rights of the subject, prohibited members of the armed forces from joining political parties, affirmed the independence of the judiciary, and defined the purposes of the state which included co-operation with other nations in maintaining international justice and world peace, preservation of the national traditions and maintenance of the principle of private enterprise. Following the promulgation of the constitution, the government announced on May 11 that the official name of the country in English would again be Thailand, instead of Siam, so reverting to the practice of the years 1939 to 1945.

General elections were held; and on the meeting of the legislature in June the cabinet was reshuffled, Marshal Pibul Songgram remaining prime minister. The cabinet secured a vote of confidence in the Lower House in July.

No change of importance occurred in the composition of the cabinet till October, when the decision was taken not to maintain the official sterling rate at 40 bahts to the pound but to alter it to 35 to the pound; this decision caused the resignation of the minister of finance, Prince Viwat Jayanta, and Marshal Pibul then took charge himself of the finance portfolio.

On a number of occasions during the year rumours were in circulation of an attempted coup by the Free Thai party, the followers of the exiled statesman, Nai Pridi Panomyong. Suitable precautions were taken by the authorities and only one serious outbreak occurred. According to the official statement, on the night of Feb. 26 members of the Free Thai party attempted a revolution; they seized the royal palace and other important centres in Bangkok, including the broadcasting station from which they announced that Nai Direck Jayanama, a member of the Free Thai and a former ambassador in London (1947-48), had assumed office as prime minister. In the resultant disturbances, misunderstanding between naval and military personnel caused a clash between the two services which was not terminated for two days. The disorders were ultimately repressed and a number of Free Thai leaders were arrested, four of whom were shot in an ambush while under police escort. Nai Direck later denied that he had had any connection with the attempted coup.

In the field of external relations, the prime minister made an important statement to the press in June, when he stated that Thailand would favour a security pact for southeast Asia on the lines of the North Atlantic treaty. In regard to the possibility of Communist agitation, Marshal Pibul stated that some 200 Chinese Communist agitators had lately been arrested by the police, and that the possibility of Communist disturbances among the three million Chinese in the country could not be ruled out, though he was confident of the ability of the security forces to deal with them. Marshal Pibul said that he welcomed the close co-operation that had been arranged with the British security forces of Malaya. He expressed similar views in a further statement to the press in September, saying that the country was determined to stop any Communist aggression but was short of equipment; in event of war, therefore, Thailand would welcome aid from the western powers. He again expressed approval of the idea of a regional security pact which should include not only the independent states of southeast Asia but also those non-Asiatic states which had interests in the region.



King Phumiphon Adundet of Thailand seen at Lausanne, Switzerland, with Princess Sirikit Kitiyakara, to whom he became engaged in Sept. 1949.

The trial of three men accused of complicity in the death of King Ananda Mahidol on June 9, 1946, continued throughout the year and had not reached its conclusion at the end of the year. His successor, King Phumiphon Adundet, remained in Switzerland throughout the year. It was announced in September that the king and Princess Sirikit Kitiyakara, daughter of the Thai ambassador in London, were engaged to be married. (B. R. P.)

Education. (1939) Government schools 429, pupils 61,297, teachers 3,626; local public schools 10,768, pupils 1,325,891, teachers 32,208; municipal schools 304, pupils 58,592, teachers 1,644; private schools 1,308, pupils 121,965, teachers 5,596; universities 2. Illiteracy: 53%.

Agriculture and Fisheries. Main crops (in '000 metric tons): rice (1948) 5,250; maize (1948) 10; cotton (1948) 6; tobacco (1947) 8. Livestock (in '000 head): cattle (Dec. 1947) 3,555; buffaloes (July 1945) 3,981; pigs (July 1945) 2,014; horses (Dec. 1946) 171. Fisheries: estimated total catch (1948) 195,800 tons.

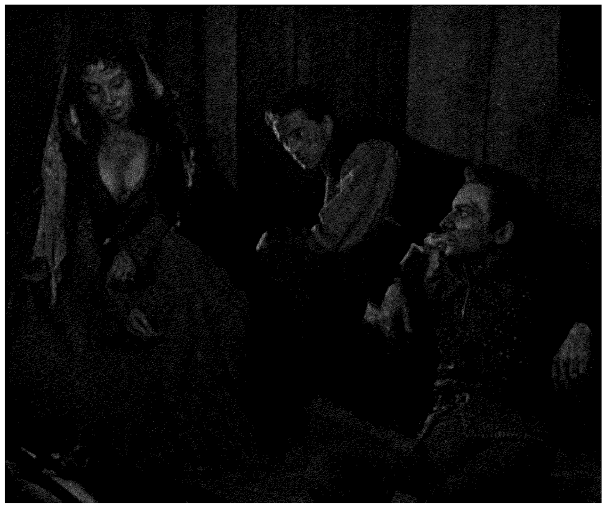
Industry. Electricity (in million kwh, 1948) 48. Raw materials (in metric tons): rubber (1948) 33,000; tin (1948) 4,308; tungsten concentrates (1947) 448.

Foreign Trade. (1948) Imports 1,708 million baht; exports 2,022 million baht.

Transport and Communications. Roads (1946): 3,902 mi. Licensed motor vehicles (Dec. 1948): cars 4,866, commercial vehicles 2,403. Railways (1947-48): 2,034 mi. Shipping (1948): number of merchant vessels 20, total tonnage 11,320.

Finance and Banking. Budget (in million baht): (1948-49) revenue 1,666, expenditure 1,848. Note circulation (Feb. 1948): 2,203 million baht. Monetary unit: *baht* or *tical* with an exchange rate (Dec. 1949; in brackets, Dec. 1948) of 35·0 (40·0) baht to the pound.

THEATRE. An interesting tendency, almost to be dignified by the title of a trend, manifested itself during 1949 in the taste of the British playgoing public. This was a



Jennet Jouraemayne (Pamela Brown), Richard (Richard Burton) and Thomas Mendip (John Gielgud) in "The Lady's not for Burning" by Christopher Fry at the Globe theatre, London.

readiness to accept not merely with resignation but with enthusiasm certain plays in which the authors had set out not to tell a connected story, but to let their minds play, wittily, philosophically or fantastically as the case might be, about a static situation. Two such plays, James Bridie's, *Daphne Laureola* and Christopher Fry's *The Lady's Not For Burning*, were among the great successes of the London season; and a third, Eric Linklater's *Love in Albania*, had a *succès d'estime*, although it did not rank with the other two in popularity.

Hitherto there had been good reason for thinking that the secret of how to write a discussion-play so that the public could be persuaded to listen to it was George Bernard Shaw's private property and must die with him. And even he had seemed in his last period to be losing his facility—a fact which was underlined in 1949 by the failure in London of his latest play *Buoyant Billions* which, though it was saluted on all sides as a remarkably lively piece of writing for a man over 90, excited no response but that of curiosity from the general public. Now, however, it began to look as though there were not only other dramatists who knew the secret but a newly experienced and responsive playgoing public such as Bernard Shaw in his best period was unable to count on.

In *Daphne Laureola*, James Bridie made almost no pretence at all of having a story to tell. His own description of his approach to the play was that he had certain things that he wanted to say and tried to keep his audience entertained while he said them. It was a simple formula, but nobody but a skilled dramatist could carry it to success. Bridie's method of doing so was to invent a magnificently eccentric character, a woman of outstanding quality but a dipsomaniac (beautifully played by Dame Edith Evans, *q.v.*). He takes her to a restaurant in Soho, and there, having removed her inhibitions with a series of double brandies, he sets her talking at large, to the delight of her fellow-diners in the restaurant and of her auditors in the theatre. What she says, and what follows from it, could hardly be coherently set down in a short description; yet the play played to packed audiences which broke the attendance records of Wyndham's theatre.

Christopher Fry's play, *The Lady's Not For Burning*, was less obscure than Bridie's, but even so was not so instantaneous a success. The action, such as it was, passed in a mediaeval city, Pamela Brown playing a girl falsely accused of witchcraft and John Gielgud a soldier who, in an attempt to divert official attention from her, accused himself, equally falsely, of murder. Eventually a climax was reached in which the lady escaped her burning and the man his hanging; but the importance of the play lay not in these happenings but in the things Christopher Fry had to say and in the nicely balanced mixture of poetry and wit with which he said them.

A similar mixture of poetry and wit was found in an even more distinguished play, which nevertheless had not been seen in London when the year ended, though arrangements had been made for its production in New York. This was T. S. Eliot's *The Cocktail Party*, staged at Edinburgh in the first week of the third annual festival there. As a technical achievement this play aroused particular interest, for in it Eliot was held to have brought to a successful culmination the experiments towards a new dramatic verse form which he had been carrying on in his previous plays, *Murder in the Cathedral* and *Family Reunion*. In the new play there was remarked an increased facility in the use of verse which, without losing its essential character, could lower itself to the level of ordinary colloquial chatter or rise to the requirements of high poetic emotion. The surprise of the occasion was not that T. S. Eliot could sustain his more lofty passages or his more impassioned scenes, for he had shown that in the earlier plays; it was that he could write in his lighter moments with a brittle wit and a sense of theatrical effect oddly reminiscent of Noel Coward's manner.

The central figure of *The Cocktail Party* is a mysterious stranger who, appearing uninvited in a London drawing-room, proves to have an uncanny knowledge concerning the private affairs of his host and hostess and their guests; and leaves an impression both on their minds and on the minds of the audience that he is some being of a supernatural order. Nor is this impression entirely removed by a second act in which the stranger turns out to be a psychiatrist with a Harley street practice, for he continues to show a knowledge of his patients and a power to shape their ends which makes him still seem a symbolical being rather than a man.

Two importations from America were of special interest, for each had been awarded the Pulitzer prize for the best play of its own year and both had been hailed by critics in America as plays of outstanding merit. They were received in England with a certain degree of reserve. In New York, Arthur Miller's *Death of a Salesman* was held to rank as genuine tragedy, the tragedy of a good man brought to nought by mistaken ideals. In London, some judges refused to allow the play any such grandeur, holding it to be not much more than a piece of sentimentality about an ineffectual nonentity. This difference of opinion might well be explained by the fact that in America the travelling salesman is a ubiquitous character, easily acceptable as a symbol of the average citizen; whereas in Great Britain the word "salesman" is not used so often and conveys no very definite idea. In the case of the other American prize play, *A Streetcar Named Desire*, by Tennessee Williams, critical opinion generally fell short of enthusiasm and it seemed probable that the great public interest which the production caused was due rather to Vivien Leigh's enormous personal popularity than to the author's merits. Objection was taken in some quarters to the sordid setting of the play and the fact that its heroine was a girl whose obsession with sex drove her to promiscuity and finally to madness. In the end the play became the battle-ground of so many partisans that its objective qualities were obscured; but it could safely be said that the strong appeal which Tennessee Williams's work made to critics and public alike in America found a comparatively wavering and uncertain echo in the British theatre as yet.

Two less controversial American plays which were produced early in the year and were still running when it ended

were *The Heiress* and *Harvey*. The former, adapted by Ruth and Augustus Goetz from Henry James's novel *Washington Square*, told a good story and told it well, and in addition owed much to Peggy Ashcroft's relentless yet pathetic acting as the unattractive girl who was sought in marriage only for her money and to Sir Ralph Richardson's (*q.v.*) unobtrusive excellence as her father. The latter, Mary Chase's odd fantasy about a happy dipsomaniac whose best friend is an alcoholically-induced rabbit six feet high, might well have failed out of hand with English audiences; instead, with Sid Field playing his first " straight " part in the lead, it drew a delighted public. Another and more delicate American fantasy, *Dark of the Moon*, by Howard Richardson and William Berney, of a " witch-boy " and his love for a mortal girl, also found a warm welcome though on a smaller scale.

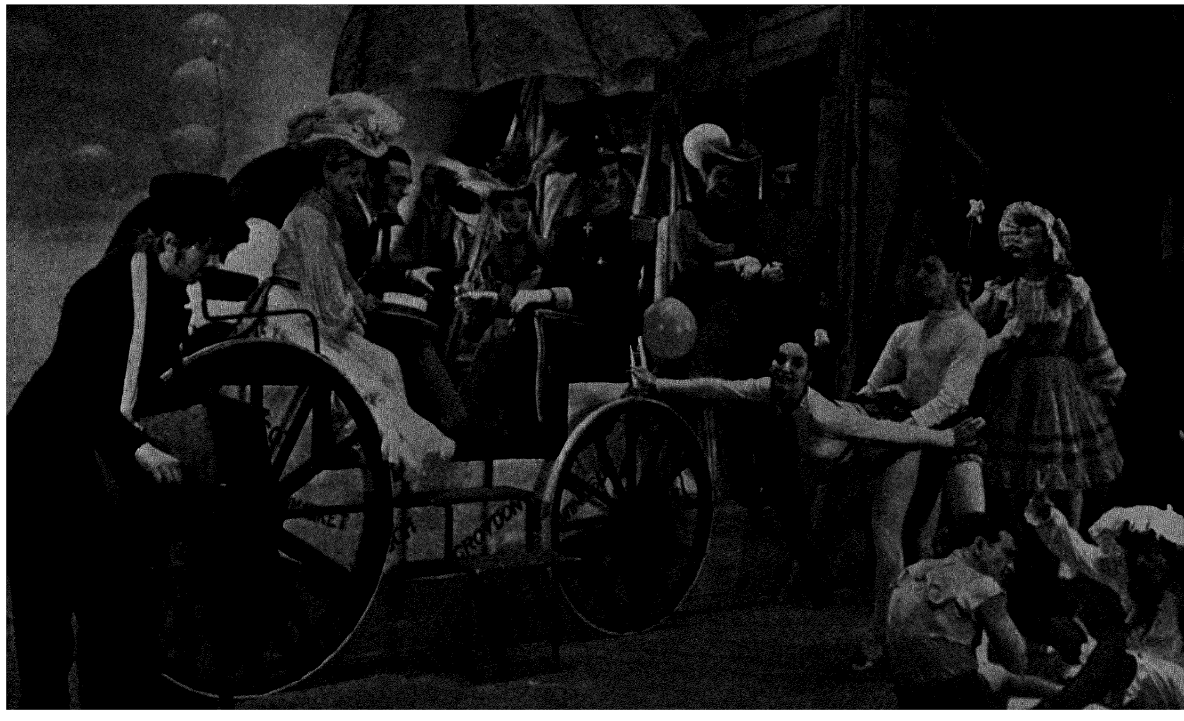
Several established British dramatists added to their reputations during the year, though neither J. B. Priestley with *Summer Day's Dream* nor Peter Ustinov with *The Man in the Raincoat* (produced at the Edinburgh festival) was quite at his best. Lesley Storm in *Black Chiffon* provided an excellent vehicle for Flora Robson; and Margery Sharp in *The Foolish Gentlewoman* for Dame Sybil Thorndike. Terence Rattigan's *Adventure Story* had merit, but failed in its attempt to represent Alexander the Great as something more than a man of action. Of a rather meagre crop of plays by dramatists hitherto unknown, perhaps *The Late Edwina Black*, by William Dinner and William Morum, showed most promise.

The Stratford Memorial theatre continued on its increasingly distinguished career and the Old Vic company, reinforced in the spring by the return of Sir Laurence Olivier, regained some of the ground it had lost and made a promising start under its new direction in the autumn with productions of Shakespeare's *Love's Labour's Lost*, Oliver Goldsmith's *She Stoops to Conquer* and Ivan Turgenev's *A Month in the Country*. Outside these two established homes of the classics there was a notable revival of George Farquhar's *The Beaux' Stratagem*, with John Clements and Kay Hammond in the leading parts. (W. A. D.)

France. In the opinion of most observers, the French theatrical season of 1948-49 was without distinction, and this despite the fact that some 40 new names were presented to the public. Few of these, however, left any real trace other than that of promise. In this connection, Julien Gracq's *Le Roi Pécheur* should receive especial mention.

Among the established playwrights, although Armand Salacrou was represented by two earlier plays, *Une Femme Libre* and *L'Inconnue d'Arras*, other playwrights, for example, Claude-André Puget, Jean Cocteau, Jean-Paul Sartre, G. Neuveux, Marcel Aymé, André Obey remained silent. It was generally felt that Henry de Montherlant's *Demain il fera Jour* and Stève Passeur's *107 Minutes* added little to either author's reputation. On the other hand, Jean Anouilh's cynical marital comedy, *Ardéle ou la Marguerite*, had a long run.

The real laurels of the year, however, went to two of the oldest playwrights in France, both in years and in experience, Paul Claudel (aged 80) and Henri Bernstein (aged 75), for their plays *Partage de Midi* (written some 30 years earlier) and *La Soif*, which Bernstein wrote after the Liberation. Claudel's play—which he disavowed after his conversion to Catholicism, and therefore rarely played before—depicted a desperate struggle between the desires of the flesh and the commands of religious faith; while Bernstein sought, with almost pagan frankness, to show the imperative tie that exists between artistic creation and the satisfactions of the flesh. Both plays conveyed an atmosphere of extraordinary sensuality. The former cinema artist, Jean Gabin, who played the leading role in *La Soif*, quickly assumed front-rank position among contemporary French actors for his remarkable portrayal. Claudel's play was presented by the Jean-Louis Barrault—Madeleine Renaud company with their usual excellence.



The Epsom race course scene from Sir Charles Cochran's " Tough at the Top," a musical show by Vivian Ellis and Sir Alan Herbert at the Adelphi theatre, London.

Despite an original, painstaking production by this same company, an attempt to present Albert Camus' widely read novel *La Peste* (the theatre version was entitled *L'Etat de Siége*), was unsuccessful, and it was generally conceded that the combined efforts of so many admirable talents had only resulted in a sort of mutual neutralization of each of them. Perhaps, too, the play suffered from being presented too late, a turning away from the war and the occupation having already become noticeable.

To relieve this somewhat negative situation, there were to be noted two encouraging factors: the existence and vitality of at least a dozen *jeunes compagnies*, and the fact that the activities of these groups were scattered throughout the country. A number of promising young producers, actors and playwrights were beginning to emerge whose influence was expected to make itself felt in the future.

Under the direction of Pierre-Aimé Touchard, the official *Théâtre Français* maintained a high standard of performance. However, the attempt to divide their programmes between a *Salle Richelieu* on the right bank of the Seine, and a *Salle Luxembourg*, the former Odéon theatre, proved unsatisfactory to both actors and public. (M. Jol.)

United States. During the season of 1949 clouds gathered over the theatre in the U.S. The League of New York Theatres, embracing the principal figures in the operation of the metropolitan playhouses and their subsequent road attractions, instituted an investigation by non-prejudiced analysts, the purpose of which was to determine how the theatre might be lifted out of the decline into which it had fallen, to give it back the prestige which it had once enjoyed and to increase its attendance and box-office receipts.

It was pointed out as an indication of the theatre's decline that, whereas in the 1928-29 Broadway season 224 plays and shows were produced, only 70 were put on in the 1948-49 season. The number of New York theatres, similarly, was 75 in 1929 and only 32 in 1949, not a single new theatre having been built for 22 years.

A supplementary investigation conducted among 2,500 group leaders and 2,500 representative people in the upper and middle income classes in 27 different cities established that 62½% of the people interviewed in cities outside New York city spent less on the theatre during 1949 than on the cinema, that the high price of theatre tickets helped to divert patronage and that the physical discomforts of the average theatre added to the discouragement of theatre attendance. Public opinion was thus operating against the theatre and immediate steps were urged to rectify the situation.

The paucity of first-rate plays and shows unquestionably figured largely in the public neglect of the theatre. It was noticeable that, when first rate or even fair second rate attractions were offered, the public interest was as great as it had ever been; at times, indeed, even greater. An outstanding example was *South Pacific*, the musical comedy by Richard Rodgers and Oscar Hammerstein II, which scored a success unmatched in the latter records of the theatre.

Other plays and shows that proved nothing was amiss with the theatre when attractions were really good were Arthur Miller's *Death of a Salesman*, the best dramatic play of the season; Sidney Kingsley's *Detective Story; Touch and Go*, a topical revue by Jean and Walter Kerr; and various others. Even when plays had obvious weaknesses but had elements of popular appeal they were still successful, such as Mae West's revival of *Diamond Lil;* James Allardice's farce, *At War With the Army;* the Irving Berlin-Robert E. Sherwood musical, *Miss Liberty; I Know My Love*, in which Lynn and Alfred Lunt acted; and the Maxwell Anderson-Kurt Weill musical drama, *Lost in the Stars.* Still further proof was to be had in the box-office receipts of such held-over attractions, produced at the end of the previous season, as *Light up the Sky, The Silver Whistle, Anne of the Thousand Days, Lend an Ear, The Madwoman of Chaillot* and *Kiss Me, Kate*, not to mention the continued popularity of long runs such as *Mister Roberts, A Streetcar Named Desire, Goodbye, My Fancy, Born Yesterday* and *Where's Charley ?*

Among the better-known native playwrights who appeared during the year were Clifford Odets with *The Big Knife*, a play which was so bad that it drew ridicule not only from the critics but from lay theatregoers; Garson Kanin with both *The Rat Race* and *The Smile of the World,* Philip Barry with a poor adaptation of Jean Pierre Aumont's play called *My Name is Aquilon,* Samuel Spewack with a negligible comedy, *Two Blind Mice;* and Lillian Hellman with a static and monotonous play, *Montserrat.*

Ezio Pinza's abandonment of the operatic for the musical comedy stage in *South Pacific* and his great success in that medium were among the year's notable features. Among the more impressive acting performances were those of A. E. Matthews in the English comedy *Yes, M'Lord,* known in England as *The Chiltern Hundreds,* Mildred Smith in *Forward the Heart,* Lilli Palmer in the revival of Bernard Shaw's *Caesar and Cleopatra* and in *My Name is Aquilon;* Mildred Dunnock in *Death of a Salesman,* Ralph Bellamy in *Detective Story,* Pinza and Mary Martin in *South Pacific,* Lynn Fontanne in *I Know My Love,* Sir Cedric Hardwicke in *Caesar and Cleopatra;* and Katharine Cornell in a verbose and tiresome romantic historical drama by Kate O'Brien called *That Lady.* (G. J. N.)

THEOLOGY. Progress in theological scholarship and writing depends so greatly on the exchange of findings and ideas between theologians the world over that it is difficult to speak of new trends or fresh emphases in any period shorter than a decade. But 1949 was an important year since it was the first in which it was possible to do some postwar stocktaking.

For almost a century German theological scholarship, especially in the text and meaning of the Old and New Testaments, was the chief foundation on which theologians in Europe and America built. In many respects this analytical work on the Bible was drawing to a close. Its assured results were there for all scholars to draw upon, though the work of making them readily available would still go on. For example, conditions in 1949 permitted the reprinting in Germany of the first three volumes of Gerhard Kittel's monumental work, *Theologisches Worterbuch Zum Neuen Testament*; work on vol. 5 was in progress and facsimiles were issued. Fresh work on the text of the Bible is called for with every new discovery of ancient documents - work which is long and costly. The main work to be done on the latest find of Hebrew documents near Jericho fell not to Europeans but to Americans, and it was already felt in American universities and theological seminaries that in the future American scholarship would have to play a more important role than in the past when the pre-eminence of Europeans, more especially of Germans, in the groundwork of theology was largely taken for granted.

The most important trend to be found in the theological work of the year was a convergence of interest on Biblical studies, but with less emphasis on analysis and more on hermeneutics. It was particularly noticeable that a preoccupation with the study of the Bible was not a Protestant monopoly. The Papal Encyclical, *Divino Afflante Spiritu* (1943), on the promotion of Biblical study was bearing fruit; the learned theological journals of the Roman Catholic Church contained scholarly reviews of Protestant works on Biblical study and the volume of work on the Bible from Roman Catholic theologians grew steadily. In Germany, the Roman Catholic Romano Guardini commented on the

theological scene from the vantage point of his chair in Munich that, although there was nothing in Germany corresponding to the new theology in France, German theologians were "going back to the sources and this time are using them properly as sources, drinking deeply and not merely sipping." The same was true elsewhere.

Three main tasks occupied the forefront of attention in relation to the Bible: first, the translation of the Bible into modern speech; second, the exposition of the meaning of different parts of, or subjects in, the Bible; third, the reassertion of the authority of the Bible for men's lives in the modern world.

In the first a new stage was reached. The American standard version of the New Testament published in Great Britain in 1949 met with general acceptance as the best attempt to remove from the authorized version inaccuracies of translation and archaisms of speech without impairing the beauty and brevity of its prose. But this work of a competent committee of American scholars was for all its virtues not a genuinely new and modern translation. A translation of the Old Testament from the Vulgate by Father Ronald Knox was also published in London in 1949. Although it was going on behind the scenes and would not be completed for many years, mention should be made of the wholly new attempt to translate the Bible into modern English proposed by the general assembly of the Church of Scotland and taken up by all the major churches in Great Britain who appointed a body of theologians to work on a new authoritative translation. A translation of the Bible into basic English also appeared during the year.

The exposition of Biblical teaching was marked by a combination of scholarship with imagination and literary skill. Among notable monographs were A. M. Ramsey's *The Glory of God and the Transfiguration of Christ* and A. M. Farrer's *A Rebirth of Images*. P J Tillich's *Shaking of the Foundations*, published in Great Britain in 1949 opened new possibilities in preaching by discussing the meaning of the key words of the Bible such as salvation, grace and redemption.

On the third subject, the authority of the Bible, much was written under the influence of, or in reaction against, Karl Barth who speaks of the Bible as something greater than a collection of documents—a single self-authenticating, self-interpreting Word of God. His *Dogmatics in Outline* was the first summary of his main works to appear in English. At the end of the 19th century much of what Karl Barth was now saying had been said by P T. Forsyth: the republication of his works which was going on in Great Britain after World War II was a theological event of importance. A distinguished international gathering of theologians meeting in Oxford in June and July, 1949, prepared a statement on "Guiding Principles for the Interpretation of the Bible," which was later published in the *Oecumenical Review*. This conference, drawn together by the World Council of Churches, was the outcome of previous international work: 20 theologians from 8 countries and 10 churches took part. The statement was an important agreement in a highly controversial field and further work would be expected.

Movements towards unity among the churches led to a re-examination of the theological factors in disunion, and to restatements by individual churches on their own positions. There were new theological statements on baptism, church membership, and other matters. Discussions to unite the Congregational Church with the Evangelical and Reformed Church in the United States reached a final stage. A week's conference between theologians of the Anglican and the Free Churches of England on intercommunion and the mutual recognition of ministries covered useful ground but did not bring the matter to a conclusion.

A further field of theological activity lay on the borderland between theology and philosophy. Secular existentialism had its strongest exponents in France and the main encounter between secular existentialism and its Christian forms took place there. The Roman Catholic Gabriel Marcel, the main protagonist of a Christian existentialism, well known outside France, delivered the important Gifford lectures at Glasgow university for the year 1949-50. The controversy with existentialists was taken up also by Roger Troisfontaines in his *Existentialisme et pensée chrétienne* and by E. Mounier, editor of *Esprit*, in a book translated under the title *Existentialist Philosophies*. French Protestants also entered the lists. Not wholly unrelated to the issue of existentialism in France was the furious debate among Roman Catholic theologians following the publication of Henri de Lubac's book *Surnaturel* De Lubac argued that the rigid distinction between natural and supernatural and natural and revealed theology need not and should not have been derived, as it was, from the teaching of Thomas Aquinas and that it was one of the chief stumbling blocks to the acceptance of Christianity by men trained in science. De Lubac was accused of heresy by some of his opponents. The controversy was well summarized by Father Victor White in the Jan 1949 issue of *Dominican Studies*

In other countries the theological encounter with secular existentialism was less direct. Works on Kierkegaard continued to appear (*e.g* T. H Croxall's *Kierkegaard Studies* in Great Britain and R. Thomte's *Kierkegaard's Philosophy of Religion* in America) and the Christian origins of existentialism were thereby underlined. J. V. L. Casserley of Great Britain took up wider issues between theology and current schools of philosophy in *The Christian in Philosophy*. Romano Guardini fulfilled in Germany something of the role of Marcel in France. Among Protestant theologians in Germany one major debate excited a wide circle of the foremost theologians. In a recently published volume, *Kerygma und Mythos* a number of theologians took up a highly controversial thesis propounded by Professor Bultmann of Marburg (in an essay entitled *The New Testament and Mythology* published in Germany in 1941) that the New Testament writers had pictured a three-storied world and that the setting of the Gospel story was frankly mythological and meant nothing to modern man; it could only mean something if mythology was interpreted existentially, that is, as illuminating not the cosmos but man and his needs. This was in the true line of German theological debate. Bishop Dibelius of Berlin published a notable small book *The Limits of the State* In the United States Reinhold Niebuhr held his position as the theologian whose works were best known to a great public. His book *Faith and History* followed the broad line of his other writings. (*See* ANGLICAN COMMUNION).

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TIBET. A country of central Asia, lying north and northeast of the Himalayas, mainly a high tableland. Nominally a

Chinese dependency, it is in practice independent; it is the only country in the world which is entirely under ecclesiastical control. Area: *c.* 469,294 sq. mi. Pop. (1948 est.): 3 million; one-fifth of the male population are monks. Capital: Lhasa. Language: Tibetan Religion: Buddhist. Ruler, formerly Lhamo Dhondup, the 14th dalai lama, born June 6, 1935 and enthroned in the Potala, or chief palace, on Feb. 13, 1940; regent, Yung Tseng Dala.

History. The threat to Tibetan independence from Chinese Communism led the regent to make approaches to the U.S. in 1949. The good offices of an American traveller were utilized for the purpose. Later the regent cabled for help. Communist leaders claimed the country as part of China and announced their intention to protect the Tibetans from what they described as the aggressive intentions of the U.S. and Great Britain and to free the people from reactionary feudalism. The threat to India was obvious, but it was hardly in a position to interfere. The British trade mission was withdrawn after the partition of India. It was interesting to note that a British firm was to establish a 600 kw. hydro-electric plant to supply current to Lhasa. (W. Bn.)

Foreign Trade. Principal imports cotton goods, woollen goods, grain, hardware, glass, sugar, biscuits, dried fruit and tobacco Principal exports· wool, borax, salt, musk, horn and herbs Main destinations of exports China and India

Finance. Monetary unit. *sang* with an exchange rate (1948) of about 3 sangs to the Indian rupee, but there are considerable fluctuations.

TIMBER. Prior to Sept. 18 it was assumed in timber circles that the year 1949 would show a definite downward trend in wood prices generally The devaluation of the pound sterling on that date by 30% as against the U S A. dollar, together with the simultaneous devaluation of their currencies *pari passu* with the pound by the majority of the timber producing countries in Europe, introduced a new factor in the price situation, the repercussions of which could not as yet be estimated. The results of these financial operations on timber prices would probably not be fully seen until the signing of the 1950 contracts.

In the early part of the year the British Board of Trade published the long awaited report of a committee set up under the chairmanship of Sir Keith W. Price to estimate British timber requirements and possible supplies up till 1955. This report estimated the softwood requirements on a strictly austerity basis at approximately 1,500,000 standards a year, hardwood requirements at approximately 75 million cu. ft. and plywood at approximately 575 million sq. ft a year. There was every prospect of the hardwood and plywood supplies being found from various sources, but Great Britain could not be certain of obtaining more than about 1,200,000 standards of softwood owing to currency difficulties. The exports of both Sweden and Finland were slightly higher in quantity than those of 1948, but somewhat lower prices were accepted by shippers. There was also a distinct easing in Baltic freight rates. In the autumn of 1949 a trading agreement was signed between the U.S.S.R. and Great Britain covering the shipment of some 75,000 standards of White sea and Kara sea redwood, together with 26,000 standards from the U.S.S.R. Baltic ports. This agreement was negotiated by the Board of Trade with Exportles, the Russian timber organization. Speculation was aroused as to the quantity which would be offered for export by the Russians in 1950, some trade circles optimistically putting the figure as high as 250,000 standards. Two other eastern European countries showed their intention to resume wood exports on a considerable scale by entering into trade agreement with Great Britain. In the early part of the year Poland signed a five-year agreement under which, *inter alia*, a quantity of timber and timber products was to be furnished to Great Britain including 70,000 standards of softwoods, 10,000 cu. m. hardwoods and 50,000 sleepers. Yugoslavia also signed a similar agreement covering trade generally under which she undertook to supply Great Britain with both softwoods and hardwoods: already from this source about 100,000 standards of softwoods had been received together with a considerable quantity of oak and beech, both logs and lumber.

During 1949 the first steps were taken to bring the felling programme of British woodlands into some relation with the annual anticipated increments. A Board of Trade order enforced a cut of 25% over that of 1948.

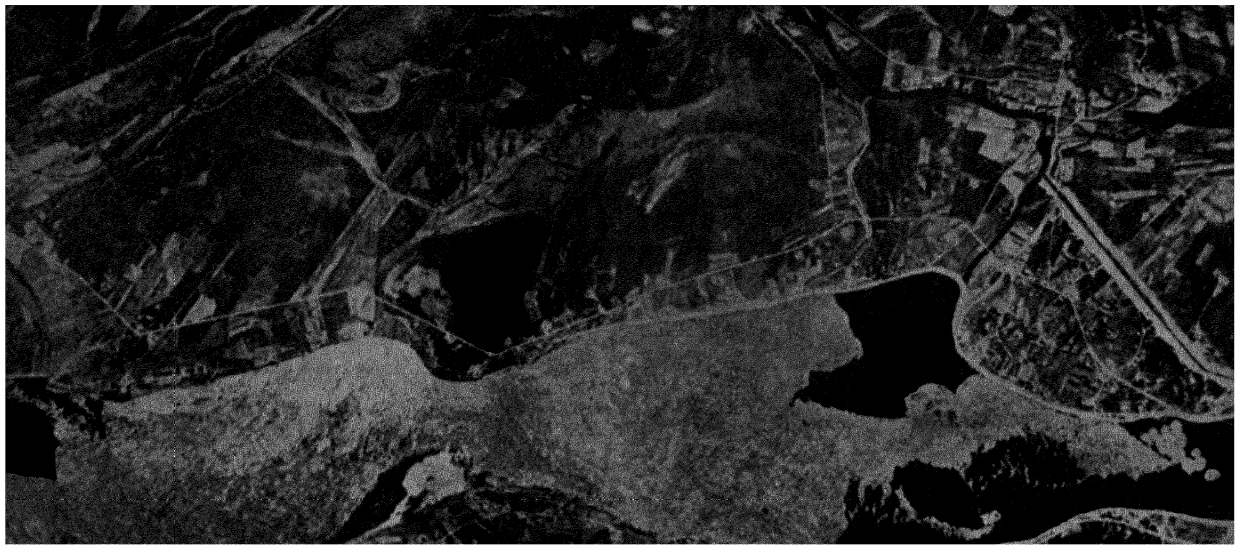
Canadian lumber production during the year remained at levels comparable with 1948. The restriction of imports by Great Britain owing to currency problems and a somewhat lower price level increased the difficulties of a number of small marginal producers. No new general contract was negotiated between the two countries, but in the autumn under the European Recovery programme a special contract for 70,000 standards of Douglas fir was negotiated for shipment to Great Britain This was allocated approximately as to 30,000 to U.S.A. exporters and 40,000 standards to Canada. It was believed that somewhat lower prices were taken than in earlier contracts. The Canadian Royal commission which was appointed to investigate lumber prices, particularly in the home market, returned a clean " bill of health " to the Canadian lumber trade. The report pointed out that under control domestic prices for lumber were considerably lower than those obtained for export.

The Food and Agriculture organization of U.N. issued during the summer in conjunction with the Timber committee of the Organization for European Economic Co-operation their final statistics of production for 1948. The review showed a distinct easing of the softwood shortage in Europe. European timber producing countries actually exported in 1948 1,882,000 standards, or 33·3% more than it was estimated could be achieved. At the same time the European Recovery programme office issued a commodity study on lumber and lumber products. The report estimated that in western Europe, excluding Germany, about 3,330,000 dwelling units were destroyed during World War II and to replace these alone would require 14,700 million board ft. of lumber. Another 850,000 dwellings a year would also be needed to take care of the growth of the population.

A significant factor in the European plywood market was the proposed resumption by the U.S.S.R. of her former great plywood export trade. It was known that a small contract had already been signed between Great Britain and the U.S S R. The imports of both U.S A. and Canadian plywood into Great Britain were much reduced owing to currency difficulties In Canada one large organization announced a 15% reduction in the domestic prices for Douglas fir plywood in order to encourage increased home consumption and to replace trade lost in the export market. A feature of 1949 was the marketing of considerable shipments of plywood from factories established since World War II in tropical Africa, including Nigeria and the Ivory Coast. (B. L.)

United States. Lumber production in 1949 was not as large as the 36,000 million board ft. produced in 1948 but was estimated at about 31,000 million bd. ft. divided into 25,500 million bd. ft. of softwoods (largely southern pine, Douglas fir and ponderosa pine) and 5,500 million ft. of hardwoods (principally oak, red gum, yellow poplar and maple). The usual active spring building boom did not occur as expected. Although the serious housing shortage continued, many buyers refused to pay the prices at which houses were offered. Lumber production therefore slowed down, and this situation continued until about Aug. 1 when the demand picked up strongly, with the result that prices advanced and a large number of mills were re-opened.

Production fell off about 10% to 15% in the south during



An air view of 20 million cubic feet of floating timber threatening the town of Kemi in northern Finland, Aug. 1949. This timber block was caused by a strike of workers at a power station near Kemi.

1949; of the 23,000 mills in the 12 southern states, about 98% cut less than 5 million bd. ft. each. The small mills accounted for about three-fourths of the entire 1949 southern pine production.

There was also a drop in the production of west coast woods although prices in that section did not fall as low relatively as they did in other parts of the U.S. The leading lumber-producing states, in order of production, continued to be Oregon, Washington and California, followed by Alabama, Georgia, Mississippi, North Carolina and Arkansas.

Substantial wage increases and other manufacturing costs led to the increased use of mechanical power saws for felling and bucking saw logs, as well as loading devices, mechanical log barkers, mechanical tree planters, track-type log trailers and improved skidding devices. At the mills, lift trucks and straddle buggies, mechanical lumber sorters, improved feed works and automatic lumber pilers and unpilers were installed to counteract the steadily rising operating costs.

The industries' Tree Farm movement continued to expand under the leadership of the American Forest Products institute and operated in 24 states embracing about 2,000 certified tree farms with a total of more than 18 million ac. In 10 of the southern states nearly 12 million ac. of forest lands had been dedicated to forest management policies to maintain continuous crops of timber for the future.

About 70% to 80% of the entire lumber production was from re-growth forests. The acquisition of large timber properties by many of the lumber and pulp and paper companies continued in order to protect the heavy capital investments in plant installations and assure raw material for the future. Stumpage prices for standing timber remained very high and did not recede as much as lumber and log prices during the year. This was notably true for veneer logs, tight cooperage stock and material for poles, piling and crossties, especially in the south. (*See* also FORESTRY.) (N. C. B.)

TIMOR: *see* NETHERLANDS OVERSEAS TERRITORIES; PORTUGUESE COLONIAL EMPIRE.

TITO: *see* BROZ (TITO), JOSIP.

TOBACCO. The world tobacco harvest for 1949 proved to be 3% larger than had been estimated and 5% larger than 1948. Although production fell in several of the minor tobacco growing countries, this drop was more than compensated by increases in others. The total crop from all countries apart from the U.S.S.R. whose figures were not available amounted to 7,453 million lb. In the United States growers produced about 2,019 million lb. or 2% more than in 1948. Canada's production for which final figures were not yet available was estimated to show an increase of about 7% over that of 1948 which amounted to 126,629,000 lb.

The most important development was in the production of Southern Rhodesian tobacco for which Great Britain was the principal market. The growing season of 1949 was a record one, the final crop total being 81,600,000 lb., valued at £10,880,000. The 1947-48 crop of flue-cured tobacco amounted to 75,385,241 lb., valued at £7,327,000. The table gives an indication of the rapid growth of the Rhodesian industry since 1940:

SOUTHERN RHODESIAN TOBACCO PRODUCTION

	Volume as Percentage of 1938-39	*Value*
1938-39	100	£1,132,000
1939-40	88	951,000
1940-41	134	1,825,000
1941-42	138	2,333,000
1942-43	184	3,019,000
1943-44	128	2,492,000
1944-45	129	2,990,000
1945-46	196	4,284,000
1946-47	178	6,096,000
1947-48	240	7,327,000

Devaluation was expected to assist Rhodesian tobacco development in 1950 by giving a further preference over American tobacco unless rising costs should overtake the ratio of devaluation.

Among Asiatic countries, Turkey's crop amounted to 176,400,000 lb. against 220,000,000 lb. in 1947. In Persia, Iraq and Palestine which produce Turkish-type leaf, 1949 production was also slightly below 1948 output. The harvests in most far eastern countries were above those of 1948, larger crops being reported for China, Japan, Korea, Formosa, Indonesia and the Philippines. For all Asia, harvests totalled 3,315,000,000 lb. from about 3,720,000 ac. against 3,175,000,000 lb. from 3,750,000 ac. in 1947-48 and the 1935-39 average of 3,250,000,000 lb. from 3,750,000 ac.

Total 1949 production in European countries excluding the U.S.S.R. was about 924,000,000 lb. from about 1,100,000

ac., compared with 810,000,000 lb. in 1948. The 1947 European harvest had amounted to 745,000,000 lb. and the prewar annual average 675,000,000 lb. from 680,000 ac. Among countries which increased their production were Bulgaria, Czechoslovakia, Hungary and Poland, with smaller increases in Rumania and Spain. France, Belgium and Italy showed a slight decrease in production. France's production of cigars was now only about half that of the prewar years.

The year was marked by a world-wide increase in cigarette smoking. An example of the ratio of increase in the greatest of the tobacco growing countries, the United States, was provided by the Department of Agriculture at Washington. Cigarette production during the fiscal year ending June 30, 1949, approximated 390,000 million, or about 3% more than in 1947-48, and a new record. Cigar consumption during 1949 totalled nearly 5,700 million, about the same as in 1948. The output of smoking tobacco was estimated at about 107 million lb., compared with 109 million lb. in 1947-48.

United States exports of tobacco to Great Britain were 151 million lb. (export weight) or 18% more than the low level of 1947-48 but 28% less than the prewar average. The allocation was reduced by the British government in June 1949 by 25%, from 110 million to 90 million dollars. Next to Great Britain the largest foreign outlet for United States tobacco was Germany. Most other western European countries took substantially more than the prewar average, although some got less than in 1947-48. Exports of tobacco to China dropped sharply and were not expected to return to earlier levels in the near future.

India and Pakistan also considerably increased tobacco production and export of leaf, and the two governments aimed at expanding the 1948 export total of 22,776,373 lb. of leaf to Great Britain. The most important tobacco producing province in India was Madras where Virginian cigarette tobacco of various qualities was produced, Guntur in the Madras Presidency being the chief market for Virginian tobacco. The total area under Virginian tobacco was somewhat over 144,000 ac. out of which nearly 140,000 ac. were cultivated in the Madras Presidency. In Bihar and Mysore, areas under Virginia were about 250,000 and 150,000 ac. respectively. Small areas of Virginia were also under cultivation in the United Provinces, Orissa, Baroda and Hyderabad. The area under Virginian tobacco was being steadily increased every year in the Indian union and cultivation and curing methods had rapidly improved. Experts claimed that the country could now produce Virginia of good colour and combustibility; it was usually flue-cured though some was sun-cured.

The 1948-49 tobacco crop in New Zealand amounted to about 5,000,000 lb. from 4,400 ac. During 1948 a total of 3,251,000 lb. of domestic and 5,056,000 lb. of imported leaf were released to manufacturers from bonded warehouses. Imports of unmanufactured tobacco totalled 4,346,000 lb. of which 4,342,000 lb. were from the United States. Imports of leaf in 1947 had been 4,651,000 lb. It was estimated that New Zealand now produced approximately 50% of home tobacco requirements. The government required all manufacturers to use a minimum of 30% domestic leaf. In general, most manufacturers adhered to the 30% requirement but some used a great deal more domestic leaf to reduce costs.

The new state of Israel reported an increase in home production of cigarettes, the monthly total having reached 80,000,000 by 5 factories employing 650 workers. (G. WT.)

TOBAGO: *see* TRINIDAD AND TOBAGO.

TOGLIATTI, PALMIRO, Italian politician (b. Genoa, March 25, 1893). After graduating in law at the University of Turin, he joined the Italian Socialist party. In 1921 he was one of the founders of the P.C.I. (Partito Comunista Italiano) and editor of its organ. After the coming of the Fascist party into power he tried to work underground but in 1926 fled to Moscow where he lived for 18 years, acquiring Soviet citizenship and using the name of Ercole Ercoli. From 1924 he was a member of the executive committee of the Comintern and from 1935 one of its secretaries. He directed the Garibaldi brigade in the Spanish Civil War and was interned in France in 1939 but escaped to Moscow. In March 1944 he returned to Italy and resumed his role as leader of the P.C.I. On April 21, 1944, he joined the Badoglio cabinet and on June 18, 1944, the first Bonomi cabinet as minister without portfolio. On Dec. 10, 1944, he was appointed deputy prime minister in the second Bonomi cabinet and on June 19, 1945, joined the Parri cabinet as minister of justice. He kept this post in the first cabinet of De Gasperi formed on Dec. 4, 1945, but did not join the second De Gasperi cabinet formed on July 12, 1946. He decided to devote himself to party organization. He was elected a member of the Constituent Assembly on June 2, 1946, and a member of the Chamber of Deputies on April 18-19, 1948. On July 14, 1948, in Rome, he was the object of an attempted assassination by Antonio Pallante, a medical student. On Feb. 26, 1949, he declared that if the Soviet army should pursue an aggressor on to Italian territory, the Italian people would have the duty of aiding it.

TOGOLAND: *see* BRITISH WEST AFRICA; FRENCH UNION; TRUST TERRITORIES.

TOKYO, capital of Japan and the third largest city of the world. Pop. (Oct. 1, 1940): 6,778,804, (Jan. 1946 est.) 3,442,106, (Dec. 1949 est.) 6,105,133. City governor (elected): Seiichiro Yasui.

Even with the lifting in Dec. 1948 of the ban on immigration into the city there was no near prospect of its re-housing its prewar total. Reconstruction by the authorities and private enterprise continued, gradually covering the remaining desolate spaces in its 360 sq. mi., restoring the sense of habitation, and even exaggerating the former complexity of lines and forms. Against the mixed background of surviving elegance, of ramshackle improvisation and of clean but



A crowd of housewives in Tokyo protesting against a proposed increase in the price of rice in Oct. 1949.

diminutive new houses the inhabitants appeared subdued in dowdy clothes, with only an occasional kimono seen in street or crowded tram. The frequency of the emperor's excursions—his simple *cortège* preceded by the sirens of his U.S. military police outriders—had dulled for the capital the tremendous interest and enthusiasm which greeted the sovereign in the provinces. The supreme commander likewise aroused less awe than formerly. American aid ensured adequate food supplies. The drastic measures enforced by Joseph M. Dodge, during his stay from Feb. 2 to May 2, intended to set Japan on the road to a balanced economy, presaged increasing austerity and unemployment (*see* JAPAN). On July 6 Mr. Shimoyama, chief of the national railways, was assassinated in a Tokyo suburb. But despite extensive dismissals of redundant workers the city remained peaceful and Communist influence, after an increase, declined. (X)

TONGA PROTECTORATE: *see* PACIFIC ISLANDS, BRITISH.

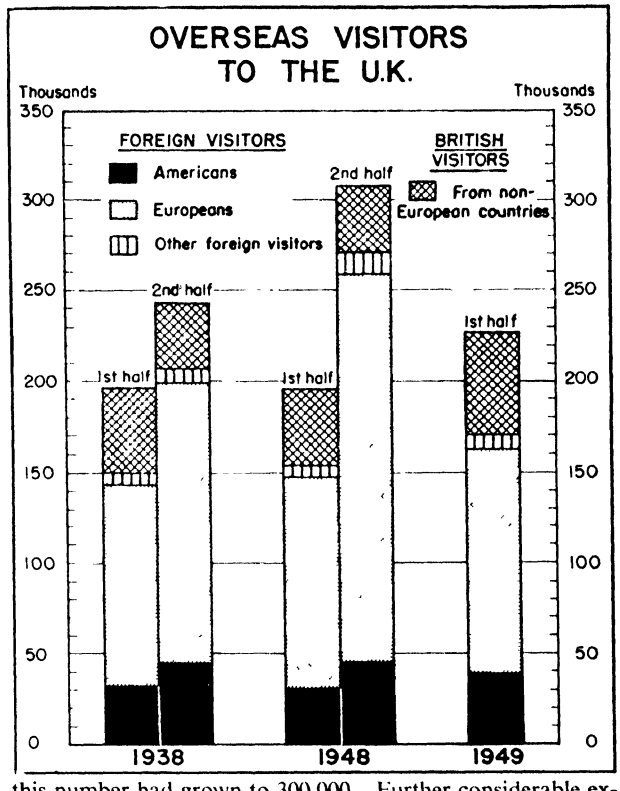
TONGKING: *see* FRENCH UNION

TORRES BODET, JAIME, Mexican statesman and author, and United Nations official (b. Mexico city, April 17, 1902), was educated at the University of Mexico, and from 1922 to 1924 he was head of the department of libraries in the secretariat of public education. He was professor of French literature in the University of Mexico, 1924-28, and then joined the Mexican foreign service, serving in Spain, Netherlands, France, Argentina and Belgium. He was under secretary for foreign affairs, 1940-43, minister of education, 1943-46, when he became minister for foreign affairs. He led the Mexican delegation to the United Nations general assembly, 1947, and in Nov. 1948 the third general conference of the United Nations Educational and Scientific organization (U.N.E.S.C.O.) elected him, by 30 votes to 3, to succeed Julian Huxley as director general. In March 1949 he arrived in London from the United States for the first meeting of the United Kingdom national commission for giving effect to the decisions of U.N.E.S.C.O. He later addressed the annual meeting of the National Union of Teachers at Margate.

In his first year of office he made special efforts to get U.N.E.S.C.O. down to many practical tasks. At the general conference held in Paris in September he defended the organization's budget against criticisms from many delegates including those from Great Britain. His many novels and poems included *Fervor* (1918), *Margarite de Niebla* (1927) and *Estrella de dia* (1933).

TOURIST INDUSTRY. The volume of tourist traffic between European countries had by 1949 barely reached the prewar level. Currency restrictions enforced by all European countries with the exception of Switzerland and Belgium were the major cause of continued restricted travel. There was a remarkable degree of recovery in making good destruction caused during World War II which so gravely affected the equipment of the tourist trade, such as hotels, railways and ships. New building, rehabilitation and modernization were undertaken throughout Europe on a considerable scale.

During 1948 and 1949 great hopes were placed by all western European governments on the expansion of Europe's dollar income by the increased tourist traffic from the United States, and in both years the industry proved to be, in value, the largest dollar earner in many countries, including Great Britain. In 1948 some 200,000 Americans visited Europe, but this amounted to less than 6% of the total tourist traffic. In 1949, mainly as a result of improved shipping conditions and introduction of improved air transport across the north Atlantic providing approximately 200,000 berths each way,



this number had grown to 300,000. Further considerable expansion of travel from the United States to Europe would be dependent mainly on the provision of low cost transport facilities both by sea and by air enabling those in the middle and lower middle income groups to travel.

Efforts of the European tourist organizations were directed to the lengthening of the traditional tourist season normally limited to the months of June, July and August, and the countries participating in the European Recovery programme arranged a publicity scheme in the United States to promote travel to Europe in the spring and autumn.

The pattern of Europe's tourist traffic in 1949 was little different from 1948, but had changed a great deal compared with that of prewar years. Germany as a tourist country and German travellers were still absent from the scene. The British government, however, re-opened western Germany to British tourists as from June 21, 1949. The British were still the greatest purchasers of Europe's tourist services. In 1949 some 800,000 Britons went abroad; more than half went to France, over 150,000 each to Italy and Switzerland and smaller numbers to the other western European countries. A small volume of luxury-type tourist traffic from Britain was enjoyed by sterling area resorts outside Europe. Residents of most western European countries travelled more than they did before World War II—particularly the Scandinavians, Swiss and Belgians. Great progress was made in lifting paper barriers, very few visas being required in western Europe.

Most American tourists visiting Europe included a number of countries in their tour. Britain and France took the larger share of the traffic, with Switzerland and Italy next in order of popularity. Tourists from Latin America were relatively few; most went to Portugal, Spain, France and Italy, although in 1949 many more travelled to Britain than before the war. With the restoration of long distance passenger liners on the ocean routes, traffic from the Commonwealth countries was greater than before the war, and these visitors almost invariably made Britain the centre of their European stay.

The amount spent by tourists in western European countries in 1949 could only be roughly estimated. British earnings from the tourist trade in 1949, excluding fare payments to British transport carriers, were provisionally estimated at £15 million from the United States and Canada, £8·5 million from western European countries and £8·5 from Australia, South Africa and Latin America; these, together with receipts from other countries, totalled £40 million. British shipping and airline operators earned an additional £18 million from fares paid by overseas visitors. Europe's tourist earnings from all countries were in the neighbourhood of 1,000 million dollars. Of these total tourist receipts the money actually paid in U.S. dollars amounted to 300 millions, constituting by far the largest European export to the United States.

(E. W. WE.)

TOWN AND COUNTRY PLANNING. In Great Britain the new planning machinery in force from July 1948 was still to a certain extent in a running-in phase. The local planning authorities, now the counties and county boroughs, got to work on their surveys and development plans due to be completed by July 1951. They also put into effect in varying ways the delegation of part of their functions to town and district authorities within their areas. As their master plans were still incomplete much consultation was necessary between the two tiers of authority on current applications for consent to develop. Though building was still restricted for economic reasons, applications were numerous and, trained staff being in short supply, administration was hard pressed. Life was not made easier for planning staffs by the issue by the Ministry of Town and Country Planning and the Scottish Office of many regulations and circulars made necessary by the complex provisions of the acts. These dealt among other things with general development, preservation of trees and woodlands, compensation, planning appeals, land owned by local authorities, colour of telephone kiosks, methods of survey, preparation of development plans, control of advertisements, mining and minerals and airfields. Good progress was, however, made by many planning authorities with their surveys and development plans, some of which were expected to be ready for submission to the ministries by the end of 1949 and more in 1950.

Further important regional advisory plans were published: notably for south Wales, north Staffordshire, the Hartlepools, northeast England, the Clyde valley, central and southeast Scotland and the Tay valley. Among local advisory and outline plans were those for Chichester, Salisbury, Sudbury and the county of Kent. The literature of planning was also amplified by many stout law books with comments on the acts and regulations.

Declaratory orders or Compulsory Purchase orders were made for the acquisition of land for the reconstruction of blitzed areas in many cities, including Bristol, Coventry, Hull, Plymouth, London (Stepney-Poplar and an area east of St. Paul's cathedral) and Clydebank. In some places redevelopment work was begun.

The regional plans of 1949, as of the preceding years, disclosed the necessity of much de-congestion of the central parts of built-up areas and recommended the preservation of green belts around cities, involving some provision for overspills of people and industry by the building or expansion of towns beyond the green belts. Sites for 11 new towns in England and Scotland had been chosen up to the end of 1948. Further sites were chosen in 1949 at Basildon, Essex, Bracknell, Berkshire, Corby, Northamptonshire, and Cwmbran, south Wales. Manchester corporation proposed to seek parliamentary powers to build a new town at Mobberley, Cheshire, and the minister of town and country planning asked Lancashire county council to suggest sites for two in that county. Several other sites were under discussion in Wales and Scotland. Progress with the actual building of the new towns was still slow but showed signs of accelerating in the second half of 1949. Master or outline plans had been prepared and in some cases submitted to the appropriate ministry for the new towns of Stevenage, Hemel Hempstead, Harlow, Crawley, Welwyn Garden City, Hatfield, Newton Aycliffe and Peterlee and in Scotland for East Kilbride and Glenrothes. A proposal to take over the first garden city, Letchworth, under the New Towns act was dropped, an agreement being made with the estate company that it be continued as a private enterprise with an undertaking to hand the town over to a public authority when complete.

Lively public discussion arose during 1949 as to the competing claims on land for food growing and for development. Farming interests and amenity societies opposed projects for open-cast coal and iron ore mining, quarries and cement works, army training grounds, power stations, hydro-electric plants, housing estates and new towns. This growing consciousness of the need of careful adjudication on conflicting demands emphasized the necessity of a strong national planning machinery; but, as each decision in favour of any claim offended one or more other claims, planning itself was often attacked.

A more intractable difficulty arose over the working of the development value provisions of the Planning acts of 1947. The Central Land board extended to June 30, 1949, the final date for claims on the £300 million hardship fund for extinguished development rights in land. In the end 935,000 claims were received, 500,000 of them in the last four days. There was no indication as to whether the £300 million fund would prove too little or too much Concessions were made to owners of single plots for dwelling houses and to registered builders owning near-ripe land for development whereby within certain limits they would have a 100% claim on the fund. Other owners were very critical of the fact that they would not know for another four years what percentage of the valuation of their claims they would receive. In the meantime they had no financial incentive to sell their land for development; the expectation that land would be freely available for development at existing use value was, as the Central board had said in 1948, "just not being achieved." With the approval of the minister, therefore, the board in 1949 experimented with its power of compulsory purchase on behalf of would-be developers. Though orders were confirmed in a number of cases much land continued to be held out of the market. The amount collected in development charges up to March 1949 was £1,328,552; and on the 6,812 dwelling house plots included in the total the average charge was £145 (*House of Commons Paper No. 223*, H.M.S.O., London).

Broadly the new planning system seemed adequate to check publicly undesirable uses of land such as increases of residential density or the transfer of green belts or good farm land to building; in this field criticism was confined to decisions on individual cases. It was not so clear that the system facilitated positive development where it was desired in private and public interests The development rights sections of the acts, an integral part of the negative control, seemed to need some revision if they were not also to check desirable developments.

The Licensing act, 1949, extended to all the new towns state management of the liquor trade with an advisory committee for each such town. The Lands Tribunal act, 1949, set up a new tribunal to settle disputes on the valuation of land for compulsory acquisition and for claims on the £300 million land fund. The National Parks and Access to the Countryside bill, introduced in March 1949, provided for

the creation in England and Wales of national parks in areas of special beauty and for special protection of smaller similar areas. A National Parks commission would select the areas and the management of each park would be entrusted to special committees of local planning authorities under the supervision of the central commission. Powers would include making development plans for the improvement of the parks, tree planting, removal of unsightly buildings and the provision of certain holiday facilities. There was to be a separate bill for Scotland. (*See* NATIONAL PARKS.)

Europe. In war-damaged countries, notably Italy, the Netherlands, Poland and Yugoslavia, reconstruction was accompanied by local planning. In France and Belgium efforts were made to induce owners voluntarily to pool and divide land in re-development areas. But even in the countries most advanced in planning law the desperate need to overtake the housing shortage outpaced planning control. The numerous excellent surveys and plans made were not to any great extent put into operation. In countries where land was nationalized planning machinery took a different form from those in which it was mostly private property; but the problems of urban congestion and spread, of journeys to work, of housing density and of the protection of food-growing land and green belts were universal. There was, therefore, much interchange of experience between planners and government administrators in many countries. None could claim to have found complete solutions of town and country planning problems but most showed growing awareness of their importance. (F. J. Os.)

North America. In Canada, a committee was formed to promote the planned development of Ottawa (*q.v.*) and a national planning conference was held in October at Winnipeg.

In the United States two national planning conferences were held: the National Citizens Conference on Community Planning, sponsored by the American Planning and Civic association, at Oklahoma City, Oklahoma, March 27-30, 1949; and the National Planning conference, sponsored by the American Society of Planning Officials, at Cleveland, Ohio, Oct. 10-12, 1949.

Private building of houses and apartments continued to dominate construction. Postwar plans contained many projects for public buildings and works, but actual construction awaited easing of the acute housing shortage. A number of cities listed public works projects to be realized in five- and six-year improvement programmes.

In Tennessee and Connecticut, state planning agencies stimulated planning for cities and towns. In Connecticut all communities were urged to prepare comprehensive plans, including land-use maps, before adopting zoning plans. In Tennessee, the state planning board fostered public school courses in planning.

On July 8, 1949, congress passed the National Housing act authorizing an 810,000 housing unit programme to be completed within six years. The act also provided for local planning for housing projects to conform to the comprehensive plan and set up a programme of slum clearance under which urban redevelopment plans were being submitted to the Housing and Home Finance agency.

The congestion of main streets in U.S. cities continued to be a major problem. Parking meters at the curb helped to some extent, and proceeds in some cities were devoted to



Lewis Silkin, minister of town and country planning (right), with Professor Uno Ahren of Stockholm university examining a model at the ministry in London, Nov. 22, 1949.

purchase of land for off-street parking. In spite of increased car parking facilities, many drivers abandoned their cars for short journeys in main urban areas and this added to the public transport load. A number of cities abandoned some or all of their tram services and substituted buses.

Most cities in the United States improved or enlarged their airports during the year; new and larger airports were planned to care for planes needing longer runways. Some cities made planning studies to locate airports on sites in conformity with the comprehensive plan for the region.

A score of universities offering degrees in planning were listed in the July *Planning and Civic Comment*. There was a tendency for universities to include courses in regional and national as well as city and town planning.

The citizen movement to support planning continued to grow. In addition to many existing local organizations, the American Planning and Civic association published work sheets for about 50 local and regional planning associations. (*See* HOUSING; LOCAL GOVERNMENT.)

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TRADE UNIONS. The British Trades Union congress held at Bridlington, Yorkshire, in Sept. 1949 represented 7,936,600 members organized in 187 trade unions, as compared with 7,791,470 in 188 unions the previous year. Most groups increased their membership to a small extent; but there were small reductions in the case of the general workers, the railwaymen and one or two others. The total membership included 1,237,000 women, as compared with 1,220,000 in 1948. The Trades Union congress includes nearly all the big trade unions except the National Union of Teachers (181,000) and the National Association of Local Government Officers (190,000). The most recent figures of total trade union membership relate to the end of 1947, when there were in all 9,114,000 trade union members, of whom 1,662,000 were females. The Scottish Trades Union congress, which is separate from the British T.U.C., had 809,000 affiliated members in Scottish trade unions or in Scottish branches of British unions in 1948; but most of these were also included in the British T.U.C. figures. The General Federation of Trade Unions, which acts mainly as a mutual insurance society for a number of the smaller unions, had 319,000 members in 1949, including a number of small unions not belonging to the T.U.C.

A few big trade unions included a high proportion of the total membership. The biggest were the Transport and General Workers (1,271,000), the General and Municipal Workers (816,000), the Amalgamated Engineering union (743,000), the National Union of Mineworkers (611,000), the National Union of Railwaymen (455,000), and the Shop, Distributive and Allied Workers (342,000). Nine others, besides the two unaffiliated bodies already mentioned, had over 100,000, and 14 more between 50,000 and 100,000. The largest groups in the Trades Union congress were the Transport Workers (other than railways), with 1,383,000 in 10 unions, and the Engineering and Vehicle Workers, with 1,250,000 in 27 separate unions.

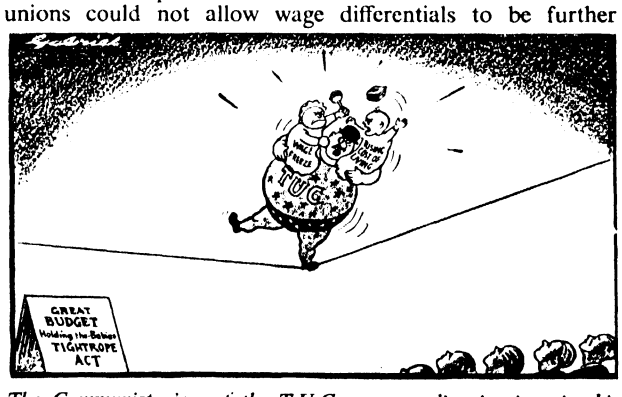
The Trades Union congress of 1949 met under the shadow of economic crisis, but before the devaluation of sterling was announced. The principal issues before it were the policy to be followed in respect of wage claims, the representation of trade unions on the boards administering nationalized industries and services and the secession of the British delegation from the World Federation of Trade Unions.

On the first and last of these issues it was a foregone conclusion that the policy of the general council would be approved, in face of strong opposition from the pro-Communist minority. Actually, the voting on the wages issue was much the same as the year before, the general council's resolution re-affirming the policy of restraint in pressing wage claims being carried by 6,485,000 to 1,038,000. The resolution approving the general council's secession from the W.F.T.U. and its subsequent steps towards the formation of a new International was carried by 6,258,000 to 1,017,000. On the other main issue, a resolution requiring that trade union representation on the boards of nationalized industries should be drawn from the unions representing the workers in the industries concerned was defeated by the rather narrow margin of 800,000.

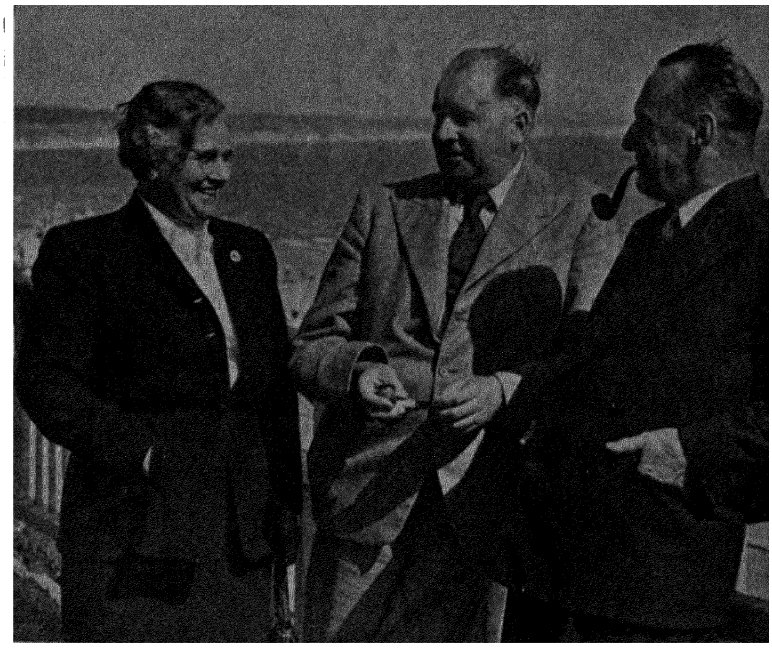
Bryn Roberts, of the National Union of Public Employees, endeavoured without success to persuade the delegates of the need for a more positive co-ordination of trade union action in dealing with major economic problems arising out of the crisis. The policy of the general council in refraining from pressing for the immediate adoption of the Congress's declared policy of "equal pay" for men and women was strongly challenged but was endorsed after a heated debate. The prime minister visited the congress and delivered a speech in which he insisted on the urgent need for higher productivity as a means of overcoming the crisis in the balance of payments. The report of the general council's economic committee and Sir W. Lawther's presidential address followed the same lines. Sir W. Lawther (Mineworkers) also delivered a vehement attack on Communist activities in the trade unions and called for more energetic action to counter their disruptive tactics directed against the European Recovery programme and the establishment of a new International free from Communist influence.

A number of unions, headed by the National Union of Railwaymen, pressed for the discontinuance of compulsory arbitration in trade disputes, which is still continuing under emergency powers taken during the war. There was much difference of opinion on this matter, other unions taking the view that before long arbitration might be useful as a means of preventing wage cuts and that in any event the country could not at present afford the risk of serious trade disputes. Finally, the question was referred to the general council for report to next year's congress.

The prime minister, in his speech, criticized the policy of insisting that wage advances to the lower paid grades in an industry should be accompanied by advances to the more highly paid grades, in order to maintain wage differentials for skill and responsibility; and after the devaluation of the pound Sir Stafford Cripps insisted that advances to the lowest wage groups, should they become necessary in face of rising costs of living, could not be allowed to spread to the better paid workers. This led to a retort by Arthur Deakin (Transport and General Workers) that the trade unions could not allow wage differentials to be further



The Communist view of the T.U.C. wages policy is given in this cartoon by Gabriel in the "Daily Worker" (London), under the title "You are now witnessing the impossible."



The 1949 Trades Union congress was held at Bridlington, Yorkshire, in September. Left to right, Florence Hancock (vice president), Sir William Lawther (president) and Vincent Tewson (general secretary).

narrowed or the established methods of collective bargaining to be undermined by the institution of any general legal minimum wage.

In general, except in the field of international relations, the year was uneventful from the trade union standpoint. There were various consultations with the government and also with the central employers' organizations concerning the best methods of improving output and further developing systems of joint consultation; but nothing very much thus far came of them. Delegations representing particular industrial groups began to visit the United States in order to study American production methods and worker-management relations; and the group representing the steel foundries came back with important recommendations on both matters. In the coal industry there were numerous meetings held to consider means of raising production in face of a renewed decline in the labour force and an increase in the percentage of absentees; but it was not yet possible to assess the results. In the cotton industry there was some approach to agreement on the long disputed matter of "re-deployment" of labour. This industry, as well as coal-mining, was seriously short of workers; and in connection with the drive to increase exports, especially to "hard currency" areas, there was some discussion concerning the expediency of a greater use of the powers of "direction of labour" which the government possessed but refrained from using in more than a very few isolated cases.

There was a good deal of dissatisfaction with the working of the national board system in the industries that had been nationalized. This was centred largely on the absence of trade union representation on the boards, which all included former trade unionists, but not as representatives of the unions. The methods of appointing salaried officers were also criticized, and some unions (notably the National Union of Railwaymen) complained that the system of joint consultation under national ownership was no advance on what had been in practice before nationalization. The complaints, however, were mostly rather vague; and it was evident that the trade unions were not at all certain what they really wanted. They were torn between the desire for some measure of workers' control or participation in management, as distinct from mere consultation, and the desire to maintain independence in order to protect their members' interests without becoming involved in responsibility for the efficient conduct of the industries concerned.

The Trades Union congress general council and the unions chiefly concerned continued to take an active part in the system of National Joint Advisory councils set up to consult with the government planning authorities and with the separate departments responsible for economic and social affairs. During the year it was arranged that representatives of the managements of the socialized industries would take part in these consultations together with those of private employers. The National Joint Advisory council recommended in Oct. 1948 that the coming into force of the Restoration of Prewar Practices act, which provided for the resumption of trade union regulations suspended during World War II, should be postponed, in view of the economic situation, till the end of 1949. Further postponement seemed probable on account of the agreed necessity of doing everything possible to ensure increased production.

France. In France there were no strikes in 1949 comparable with the large coal strike of Oct. 1948. The most important single strike movement was a 24 hr. strike of the civil service, called originally by Force Ouvrière, but backed by the other trade union federations, to demand salary increases. The question of wage advances came to the front again in Oct. 1949, when the disintegration of the Henri Queuille government was directly caused by the resignation of the Socialist minister of labour, Daniel Mayer, on account of the government's refusal to make concessions to the demands of the unions (*see* FRANCE). The new government, under Georges Bidault, was compelled to grant a once-for-all bonus to meet the rising cost of living, pending measures for restoring free collective bargaining which it promised to introduce in the near future.

The French trade union movement continued throughout the year to be divided into rival factions. The C.G.T.-F.O. (Confédération Générale du Travail-Force Ouvrière), the anti-Communist trade union federation led by Léon Jouhaux and closely connected with the Socialist party, failed, despite some financial support from the British trade unions, to make much headway except among the non-manual workers. The C.F.T.C. (Confédération Française des Travailleurs Chrétiens) continued its independent existence, and in Oct. 1949, a new independent federation, Confédération Syndicale du Travail, was founded by a number of unions that had held apart from the existing bodies and also included a number who had been expelled or who had seceded from the Communist-dominated C.G.T. (Its secretary general was Benoît Frachon, a Communist member of the National Assembly.) Sulpice Dewez, secretary general of the C.S.T., declared its willingness to collaborate with all other non-Communist groups. Earlier in the year the C.G.T., as a sequel to the failure of the coal strike, had carried out a large-scale purge of trade union officials, especially in the northern *départements*, designed to ensure fully effective party control over the Communist section of the trade union movement, which remained by far the largest among the manual workers.

Italy. In Italy, the most important strike in 1949 broke

out in May among the farm workers in the Po valley, Latium and Apulia. It was supported by both Communist and non-Communist trade union groups and resulted after five weeks' struggle in the grant of a cost-of-living bonus, in the extension of unemployment benefit to agricultural workers and in a number of other concessions. The Italian trade union movement, like the French, continued to be divided into rival factions, the largest section being organized in the C.G.I.L. (Confederazione Generale Italiana del Lavoro or General Confederation of Italian Labour), which was under the control of the Communists in conjunction with the Pietro Nenni P.S.I. (Partito Socialista Italiano) The Christian trade union organization (Corrente Sindacale Cristiana), formed in Aug. 1948, decided later in that year to transform itself into an anti-Communist L.C.G.I.L. (Libera Confederazione Generale Italiana dei Lavoratori), but failed to carry with it the bulk of the anti-Communist workers that were not organized on a definitely Christian basis. In May 1949 the dissident P.S.L.I. (Partito Socialista dei Lavoratori Italiani), led by Giuseppe Saragat, joined with the Republican party, led by Randolfo Pacciardi, in forming a new body, the F.I.L. (Federazione Italiana del Lavoro), and there were thus three rival bodies attempting to represent the Italian workers Trade union power was sapped by heavy unemployment in the industrial areas and over and above this the continuing dissensions among the Italian Socialist groups made it impossible to achieve a common front of the non-Communist sections in the trade unions (*see* also ITALY; SOCIALIST MOVEMENT)

International Movement. The strong disagreements which had been evident for some time past inside the World Federation of Trade Unions came to a head in Jan. 1949, when the British Trades Union congress and the American Congress of Industrial Organizations joined in a demand that the W.F.T.U. should suspend its activities for the time being and, when this proposal was rejected, withdrew from further participation in its proceedings.

The cause of this split was the carrying on by the executive bureau and officials of the W.F.T.U. of a Communist-inspired campaign against the European Recovery programme and against the support given to it by the British, American and other trade union groups. These groups had formed a loosely organized joint advisory committee representing the E.R.P. countries; and the W.F.T.U. office had issued, without a meeting of the full executive, various manifestos to which strong objection was taken by the non-Communist members.

At the same time, the W.F.T.U. had been negotiating with the separate Internationals of trade unions representing particular occupational groups (transport workers, miners, textile workers, etc) with a view to their absorption as departments; but these negotiations broke down. The "Trade" internationals thereupon formed a joint committee of their own but disclaimed any intention of founding a rival International, regarding this as a matter to be dealt with by the national trade union centres.

In June 1949 the British Trades Union congress, in close consultation with the Americans and with other bodies which had left the W.F.T.U., called at Geneva a preparatory conference for the establishment of a new International Confederation of Trade Unions. The A.F.L. (American Federation of Labour) which had refused throughout to join the W.F.T.U., took part in this gathering together with the C.I.O. (Congress of Industrial Organizations). The Geneva conference appointed a committee to draw up a constitution for a new International and to convene a further congress for its formal institution. This committee included representatives from the U.S., Great Britain, France, Belgium, Italy, Australasia, Scandinavia, Latin America, Asia, Africa and the middle east. Germany was also invited to appoint a representative and so was the joint committee of the "Trade" internationals.

In July 1949 the World Federation of Trade Unions held a rival conference at Milan, and passed resolutions denouncing the secessionists and the European Recovery programme. The seceding bodies were accused of following a policy of subservience to American imperialism and of treason to the working class cause. The Milan conference further decided to take steps to set up a rival system of trade secretariats representing the workers in particular industries as departments within the W.F.T.U.; and later in the year a number of sectional conferences were called for this purpose.

On Nov. 28 about 245 delegates of over 47 million members of non-Communist trade unions throughout the world met in London to adopt the constitution of the new I.C.T.U. Among them were: from the U.S., William Green, president of the A.F.L., and Walter Reuther, vice-president of the C.I.O.; from Great Britain, Arthur Deakin, secretary general of the Transport and General Workers' union, and Vincent Tewson, secretary general of the T.U.C.: from France, Léon Jouhaux, secretary general of the C.G.T.—F.O., and Gaston Tessier, president of the C.F.T.C.; from Italy, Giulio Pastore, secretary general of the L.C.G.I.L. Paul Finet, secretary general of the Belgian T.U.C., was elected chairman of the London congress and J. H. Oldenbroeck (Holland), secretary general of International Transport Workers' federation, secretary general of the congress. An executive board of 19 was elected on Dec. 7 with J. H. Oldenbroeck as secretary general. Two days later, at its final session, the congress adopted a manifesto which, appealing to all workers to unite within the confederation's ranks, opened with three following slogans:

Bread Economic and social justice for all
Freedom Through economic and political democracy
Peace With liberty, justice and dignity for all

The world trade union movement was thus again split into rival Communist and anti-Communist sections, as it was between the two World Wars, but with the difference that the majorities of the French and Italian movements were firmly integrated with the Soviet group, and that Soviet influence was exclusively dominant in eastern Europe, except in Yugoslavia. The exiled trade unionists from the countries under Soviet domination founded in Paris a Free Centre for Trade Unionists in Exile; and this body was represented by observers at the Geneva conference. (G. D. H. C.)

United States. The political issues affecting the demands and position of organized labour in the U.S. were the leading subjects of debate in the long first session of the 81st congress. The large and unexpected victory of the Democrats in the national political campaign of Nov. 1948 persuaded the leaders of the American Federation of Labour and the Congress of Industrial Organizations that the new congress, with the support of President Truman, would repeal the Taft-Hartley act, extend and liberalize the federal social insurance system and raise the statutory minimum wage rate.

In these hopes organized labour was disappointed. Although repeal of the Taft-Hartley act and restoration of the Wagner act was one of the principal campaign promises of the Democratic party, the majority of the new congress, including both Democrats and Republicans, resisted pressure from the President and union leaders. The dominant opinion of congress was that the Taft-Hartley act had corrected abuses associated with the Wagner act. Any revision of the existing law, therefore, would, to win the support of congress, have to be moderate and limited. The unions wanted either the essence of the Wagner act or no change in the law at all. They, therefore, rejected a considerable revision proposed by Senator Robert A. Taft. The result was that congress adjourned without changing the law and

left the Taft-Hartley act as the foremost issue in the congressional elections of 1950.

Organized labour was no more successful in its efforts to win thorough-going revision of existing social insurance legislation, since congress failed to adopt a bill to raise old-age pensions and various forms of assistance and substantially to extend the coverage of the pension plan. But congress did satisfy union demands by raising the statutory minimum wage from 40 to 75 cents an hour and appropriating large federal subsidies to promote housing construction for the lower-income population

Although the year proved, in retrospect, to have been almost as good a year as 1948, there occurred within the 12 months a noticeable slump in production, employment and profits and an increase in unemployment, which made it difficult for the unions to pursue their expected demand for further wage increases.

In the major negotiations for contract renewals in 1949, union policy took another direction. The C I O. Steel and Automobile Workers' unions added to their wage demands proposals for company-financed pension and insurance benefits, it being generally understood that wage concessions would be waived in return for a satisfactory settlement of the union pension and insurance claims As in past years a single union, in this case the United Steel Workers, assumed the leadership in the drive for welfare benefits as a substitute for higher wages The negotiations between the unions and the steel companies ended in disagreement, mainly because the companies considered the union proposals excessively costly and because some companies, in particular the U S Steel corporation, insisted on contributions by their employees to the pension funds. Failing to reach agreement the union prepared to call a national steel strike

At this point President Truman intervened with the appointment of a steel fact-finding board, before which the industry reluctantly and the union eagerly appeared to present their respective cases. The findings of the board were legally not binding on either party, but it was clear that what the board recommended would have a determining influence on the ultimate settlement. This was, in fact, what happened. The board ruled against a wage increase because of unfavourable business conditions But it recommended both pensions and social insurance to be financed by employer contributions amounting to ten cents an hour. In its argument the board found the cost of such benefits to be an appropriate charge on business and threw the weight of its influence toward non-contributory pensions. The board's report was accepted by the union and rejected by the employers. On Oct 1 the steel industry came out on strike.

In the coal industry pensions and welfare benefits were also the source of strikes and disturbances. In this industry pensions and welfare funds, financed by a royalty on each ton of coal produced, had been in existence since the settlement of the strike of April 1946 The royalty amounted in 1949 to 20 cents a ton. The causes of trouble were in the main peculiar to this industry and the policies of John L. Lewis. The funds, for all practical purposes administered by the union, ran out of sufficient reserves. In 1949, therefore, the United Mine Workers wanted the royalty raised and, in addition, sought a shorter working week and a substantial increase in wages. Negotiations, which went on for most of the year, were inconclusive. The coal operators, already suffering from loss of business to competing fuels, were unwilling to raise costs. Considering, also, the alleged wastes in the union administration of the benefit funds, they objected to making a new contract which failed to deal with this problem. The miners, therefore, resorted to direct action. For a large part of the year Lewis ordered his members to work only three days a week and late in the year the entire industry was shut down by a strike. When the year ended nothing was settled and the industry reverted, by union order, to a three-day week.

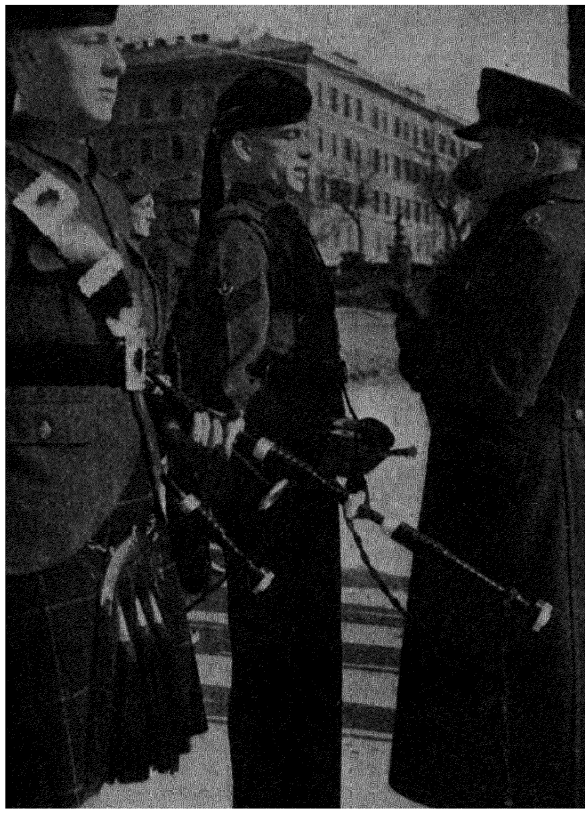
The national steel and coal strikes raised the losses from labour stoppages to the unusually high level of 53 million man-days, a total exceeded only in 1946. The steel strike was settled after a month's idleness, though numerous strikes against particular companies continued beyond that time (L Wo.)

TRANSJORDAN: *see* JORDAN, HASHIMITE KINGDOM OF THE

TRIESTE, THE FREE TERRITORY OF. A small state at the northern end of the Adriatic sea, between Italy and Yugoslavia, demilitarized and neutral, whose integrity and independence were assured from Sept. 15, 1947, by the Security council of the United Nations. Total area: 293 sq. mi Total pop (June 1949 est): 345,000. Military governors under provisional regime: Zone A, British-U S (area, 96 sq mi ; pop , 285,000), Major General Terence S Airey, Zone B, Yugoslav (area, 197 sq. mi.; pop , 60,000), Colonel Mirko Lenač. Mayor of the city of Trieste, Gianni Bartoli

History. During 1949 the problem of Trieste remained unsolved; the British, French and U S governments stood by their declaration of March 20, 1948, suggesting the return





Field Marshal Sir William Slim, chief of the Imperial general staff, in Trieste, during a two-day visit, March 1949.

of the Free Territory to Italian sovereignty, and the Soviet government refused to agree to a revision of the Italian peace treaty which they considered unwarranted. Although in Jan. 1948 the Security council had been unable to agree over the appointment of a governor for the Free Territory, on Feb. 17, 1949, Yakov A. Malik, the Soviet representative, re-opening the controversy, proposed that the council should nominate Hermann Flückiger, a Swiss diplomat, one of the candidates who had been put forward a year before by the British government and rejected by Moscow. The Soviet delegate renewed his proposal in March and again in May, when it was rejected by nine votes to two.

On June 12 the people of Trieste freely elected their municipal council, for the first time for 27 years. The elections were quiet and orderly and the six Italian parties which favoured the restoration of Trieste to Italy received 63·7% of the total of 172,036 votes cast. The strongest Italian party was the Christian Democratic which received 65,944 votes (39·1%). The Cominform Communists secured 35,586 votes (21·1%), fewer than had been expected, and three independent groups running under the slogan "Trieste to the Triestines" polled 11·1%—a larger proportion than forecast. The Slovene vote was exceptionally low, only 4·1%, 2·4% of which went to pro-Tito Communists and 1·7% to the anti-Communist Slovene coalition.

On July 3 the Belgrade government announced their decision to introduce Yugoslav currency in zone B—or Yugoslav-occupied—of the Free Territory. The yugolira, an occupation money introduced in May 1945 which exchanged with the Italian lira (legal tender in Trieste) at the rate of one yugolira for two lire, was discontinued. The Yugoslav dinar was introduced instead with an exchange rate of one dinar for nine lire. (This Yugoslav reaction to the June elections seemed to be more than a monetary reform. A monetary union is practically an economic one and this could lead to political union). As the Yugoslav decision was technically a violation of the peace treaty (but so had been the creation of the yugolira in 1947), the Italian government protested to the Security council. Italy had hoped that according to the British-French-U.S. declaration of March 1948 the whole Free Territory would eventually return to its sovereignty. The monetary union between zone B and Yugoslavia seemed, however, to imply that the Belgrade government would not be easily dislodged from their part of the Free Territory. Although Yugoslavia had protested vigorously in 1948 against the three-power declaration, it appeared that it would, perhaps, accept the partition of the Free Territory as the only practical solution of the dispute. The British and U.S. governments on July 14 delivered only mildly-worded protests against the introduction of the dinar to zone B.

Unhappily for the Triestines Italy is not ill-provided with ports and geographically Trieste is not part of the Italian peninsula. The creation of secondary industries might alleviate but was unlikely to solve the problems of a seaport in decline. The Cominform quarrel with Tito, by diverting Czechoslovak and Hungarian traffic from Rijeka to Trieste, helped to improve the economic situation as well the political atmosphere; but, at the close of 1949, Trieste's economic recovery still awaited the end of the "cold war" and an active east-west trade.

Economy and Finance. Budget (1948-49): revenue L.12,800 million; ordinary expenditure L.13,800 million, extraordinary expenditure L.16,300 million; total deficit L.17,300 million. During the year 1948-49 the E.C.A. allocation to Trieste was $17·8 million. For the year 1949-50 the Allied Military government asked for $12·6 million.

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TRINIDAD AND TOBAGO. British colony consisting of two islands off the South American continent north of the Orinoco river delta. Area: 1,980 sq. mi. Pop. (1947 est.): 586,700. Governor, Major General Sir Hubert Rance.

History. Details of a new constitution were announced in February; although not yet promulgated, preparations for its introduction, including the appointment of a speaker, were made. It provided for a governor possessing restricted reserve powers and presiding over an executive council which also includes three *ex-officio*, one nominated and five elected members, these last to be chosen by the Legislative Council from among their unofficial members and to be actively associated with the work of administration of departments of government. The Legislative Council, presided over by a speaker appointed by the governor from outside the council, was to consist of three *ex-officio*, five nominated and 18 elected members, the speaker having neither an original nor a casting vote.

Finance and Trade. Currency: West Indian dollar ($4·80=£1). Budget (1949 est.): revenue $42,627,045; expenditure. $41,554,367. Foreign trade (1948): imports $131,822,264; exports, domestic $127,105,384, re-exports $5,521,749. Principal exports: petroleum and sugar. Sugar crop for 1948-49 was estimated at 159,032 tons, an all-time record. (J. A. HU.)

TRIPOLITANIA: *see* ITALIAN COLONIAL EMPIRE.

TRISTAN DA CUNHA: *see* SAINT HELENA.

TROPICAL DISEASES. During 1949 chloromycetin (chloramphenicol) was prepared synthetically and the formula (D-threo-1-paramidophenyl-2-dichloracetamide-1, 3-propanediol) published by H. Raistrick. Its chief properties were in the treatment of rickettsial diseases (typhus group). B. Ehrlich showed that it was active against *R. prowazeki*, and J. E. Smadel *et al.* that it had similar action on all pathogenic rickettsiae. They successfully treated a

group of louse-borne typhus patients in Mexico, and J. E. Smadel *et al.* had a similar experience with 25 cases of scrub typhus (mite typhus) in Malaya. In Rocky Mountain spotted fever (*R. rickettsi*) chloromycetin caused complete remission. J. E. Smadel showed, too, that it was active against the virus of psittacosis. In typhoid fever it was also discovered in Malaya that the drug possessed a curative effect in ten cases. It did not, however, exterminate *Sal. typhie*; neither did it appear to be active in a typhoid carrier. W. H. Bradley recorded that patients became apyrexial by the third day of treatment and signs of resolution were obvious within 48 hr. after eight gm. of the drug.

It was found that aureomycin hydrochloride obtained from the mould *Streptomyces aureofaciens* was potent against many Gram-positive and Gram-negative organisms and could be used against infections that had become resistant to penicillin, streptomycin or sulphonamides. Aureomycin was as effective in Rocky Mountain spotted fever as was chloromycetin. S. C. Wong and H. R. Cox showed its effectiveness in Q fever and E. H. Lennette *et al.* reported on 15 cases of this fever with relatively prompt improvement. L. T. Wright *et al.* treated 25 cases of lymphogranuloma venereum with buboes and proctitis with decided improvement. In ulcerating granuloma of the pudenda, R. B. Greenblatt showed good results in streptomycin-resistant cases. In undulent fever (Brucellosis) due to *Br. abortus* and *Br. suis*, E. B. Schoenbach, W. N. Spink, S. Ross and M. S. Bryer reported successful results with remissions in three to four days.

The chief victories of streptomycin were in plague and the allied tularaemia. In experimental plague S. F. Quan *et al* showed that it was bactericidal in the most virulent strains, and in guinea-pigs and mice injected subcutaneously with plague it was more active than sulphonamides. Even in pneumonic plague in mice, 200-400 mg. of streptomycin hydrochloride every six hours cured 90-95% of infections. D. Herbert showed that in concentration of three units per ml. streptomycin caused rapid sterilization of plague cultures. P. V. Karanchandani and K. S. Rao reported that in an epidemic of 152 cases and 66 deaths, five moribund plague patients were treated with intramuscular streptomycin. Improvement was evident with a total of 1·5 gm. W. Lewin *et al.* (1948) treated two cases of pneumonic plague with the recovery of one. The treatment was from the third day of the illness with streptomycin 1·8 gm. daily for eight days and a total of 24 gm. of sulphadiazine or sulphathiazole. C. Haddad and A. Valero, in three severe cases of bubonic plague, showed that streptomycin was superior to any drug in doses of 200 or 300 mg. every three hours. Streptomycin also cured tularaemia (*Brucella tularensis*) in doses of 1 gm. intramuscularly daily for seven days and cases of tularaemic pneumonia were also cured.

Treatment of Schistosomiasis. Miracil D. or Nilodin, (1-Diethylaminoethyl amino-4-methylthioxanthone hydrochloride) was tried out on an extensive scale in man in Egypt, Rhodesia and elsewhere. In lower dosages the drug appeared to be erratic but the results in much higher and more frequent doses were more consistent. In a series of trials, doses of 400 mg. were given twice or thrice at three-day intervals. In a later series doses up to 300 mg. at 12 hr. intervals were given for as long as two weeks. The final results were better in the case of *S. hæmatobium*, less good in *S. mansoni* infestations and on *S. japonicum* (according to W. Kikuth and R. Gönnert) it was inactive. Miracil D. cured schistosomiasis in about 32% of cases.

Treatment of Filariasis. Experiments with Hetrazan or Banocide (1-diethyl carbamyl-4-methyl. piperazine hydrogen di-citrate) showed that it combined a high toxicity for the parasite with low toxicity for the host. Its main lethal action was against the microfilariae, whereas its action against the adult worms was slight. Studies on *Wuchereria bancrofti* were carried out in Puerto Rico, British Guiana, Costa Rica, Virgin Islands and Tanganyika. The dose was about 20 mg. per kg. of body weight and removed all, or most, microfilariae from the blood. On microfilariae in hydrocele fluid hetrazan had no action. It behaved somewhat like an opsonin, modifying the microfilariae so that they were seized by fixed phagocytes of the endothelial system which then destroyed them.

On *Loa loa* microfilariae hetrazan was very active and there was some evidence that the adult worms were also affected, as dead individuals were demonstrated under the skin. Prolonged treatment resulted in abolition of symptoms, such as Calabar swelling and pruritus. On *Onchocerca volvulus* hetrazan produced severe allergic responses after a single dose, depending on the intensity of the infestation Pyrexia, facial oedema, pruritus and itching of the eyes were often encountered, according to F. Hawking and W. Laurie, with a dosage of 50-100 mg. twice daily for two days and then 150-600 mg. twice daily. The skin became negative for microfilariae after 2-3 days. (P. H. M.-B.)

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TRUCIAL SHEIKHDOMS: *see* ARABIA

TRUMAN, HARRY S., U.S statesman (b. Lamar, Missouri, May 8, 1884), was elected vice-president of the United States on Nov. 7, 1944. On April 12, 1945, upon the death of Franklin D. Roosevelt, he became the 33rd president. On Nov. 2, 1948, he was elected president by 24,104,836 votes to 21,969,500 for governor Thomas E. Dewey. (For his early career see *Encyclopædia Britannica* and *Britannica Book of the Year 1949.*)

President Truman underwent a metamorphosis in 1949 which surprised both friends and enemies. The erstwhile modest Missourian, who regretted publicly that circumstances had catapulted him into the White House and whose defeat in the 1948 election was generally regarded as a certainty, stepped forth as a confident, determined and aggressive leader of his party and the nation. Nor did he shrink from asserting himself as a spokesman and director of world affairs. The new Truman appeared for the first time when he delivered his inaugural address on Jan. 20. He scrapped the famous Roosevelt slogan of the New Deal, substituting for it his own Fair Deal. In this address, in other speeches and in subsequent messages to congress, his Fair Deal demands were: repeal of the Taft-Hartley act and enactment of the Brannan farm plan; compulsory national health insurance; civil rights legislation; extension of social security; federal aid to education and health; stronger anti-trust laws; greater development of public power; rent control and housing for middle and low-income groups.

Congress refused to pass the greater part of his domestic programme because of a hostile combination of Republicans and conservative Democrats, the latter mostly from the south. Nevertheless, the legislative rebuff did not discourage the president. Addressing a Jefferson-Jackson day dinner on Feb. 24, he said that " all we have on our side are the people." He declared that the party "was never more united or stronger, or more dedicated to the people's welfare." Addressing 400,000 people at the Minnesota state fair in St. Paul in early November, he declared that he expected congress to enact most of his Fair Deal programme at the

1950 session. Referring to the opposition's derogatory characterization of his theories as foreshadowing a "welfare state," he said that he appreciated the description and welcomed the challenge. He regarded the results of scattered off-year elections on Nov. 8, which were favourable to the Democrats, as an endorsement of his record.

TRUST TERRITORIES. Under this heading are grouped former German colonies in Africa and Australasia which became League of Nations mandates after World War I and United Nations trusteeships after World War II. Their total area is approximately 1,031,451 sq mi. and the total population 16,825,300. Certain essential information on the respective territories is given in the table

Developments which might prove to be of great moment took place in the trusteeship system of the United Nations during 1949. A continual study of the whole system was maintained so that it became possible to obtain clearer indications of the direction in which the experiment was moving.

All the trust territories sent in their annual reports—including, for the first time, the Pacific islands (also a strategic area) which were administered by the U.S A. The Trusteeship council examined them at length, bringing into view the political, social, economic and educational development of the peoples during this period, and adopted resolutions thereon. It noted an increasing tendency to take advantage of the right of petition, which had been stimulated by the Council's mission to east Africa in 1948

Broadly speaking, majorities of the council approved of the progress made, particularly in the social and economic field, in spite of difficulties of climate, ethnology and finance, by the administrations in the following territories: New Guinea and Nauru (Australia) (territories recovered from Japanese occupation), Western Samoa (New Zealand), where the inhabitants had now a larger share in responsible government, the Pacific islands (U.S.A.), nearly 100 in number covering over 3,000,000 sq. mi. and with a population of barely 53,000 Micronesians, the two Togolands (British and French) and two Cameroons (British and French) and Tanganyika, the largest and least affluent of these territories But there was considerable criticism, some of it constructive and helpful, some marked by little sense of proportion. The latter tendency was met with at the fourth assembly in New York, on a larger scale, resolving itself into an increasing conflict between the powers of the administrations on the spot and the claims of those who, to a large or small degree, were opposed to existing colonial systems. These last therefore lost no opportunity of claiming jurisdiction for U.N and responsibilities for the trusteeship in matters which were not covered by the charter. Such anti-colonial critics often had a real if confused sympathy for the inhabitants of the territories in trust, but owing to lack of colonial experience were over-anxious to hurry on the steps by which the territories could become independent sovereign states. Great stress was laid on education, particularly of a political kind The U.S.S.R. and a few other states went further and demanded full-fledged independence and sovereignty on "democratic lines" straightaway and coupled this often enough with violent denigration of all colonial systems and overt political attacks on the administration of the British empire.

The Trusteeship council further undertook two far reaching studies, the course and length of which were to depend on future developments: first, of the effect of administrative unions, such as that between Tanganyika and Kenya and Uganda, on the status and progress of trust territories; secondly, of the implications of expanding facilities for higher education in these areas. If these were really fact-finding studies they might exercise a wise influence on trusteeship policies. The reports of the council's mission to east Africa—Tanganyika and Ruanda-Urundi in 1948 were closely examined and their conclusions broadly adopted with a stress on the increasing need of speed. A further mission started for west Africa—the two Togoland and Cameroons trust territories—at the close of the year. A third was to visit the Pacific islands (with due regard to their being a strategic area) early in 1950.

When the fourth assembly met, the trusteeship issue was expanded to include colonial government in general and bulked larger in international discussion than any subject except the determined and hardening difficulties between the U.S.S.R. and the western powers.

A number of resolutions were adopted. The special committee on information from non-selfgoverning colonies was given larger powers and prolonged for a further three years Hitherto, in accordance with article 73 (e), Great Britain and other administering powers had forwarded to the secretary general of United Nations, for information purposes, statistical and technical information on economic, social and educational conditions in the areas for which they alone were responsible. The act was voluntary and excluded political information The assembly now asked these colonies to supply information on political and constitutional developments and to appoint a committee with powers of roving enquiry Great Britain and other administering powers objected on the ground that the new proposals went beyond the charter and tended to assert the principle of international supervision over all colonies

Enlargement of the powers of the Trusteeship council also came from another quarter, being part of the programme finally adopted by the general assembly for the solution of the postwar problem of the former Italian colonies. Libya, for example, was to be constituted as a soveriegn state by Jan. 1952; and to assist the inhabitants in the transition, help them to make their own constitution and administer the territory in the interval, a U.N high commissioner was to be appointed, with a council of ten, who was to report to the next assembly. Next, Somaliland was to become a sovereign state 10 years after the approval of a Trusteeship agreement by the Trusteeship council and the general assembly, with Italy as administering authority, aided by a council of three. As regards Eritrea, a U.N commission of five was to try and find out the best means to promote the wishes and the welfare of the inhabitants and to report to the fifth assembly.

Thus there appeared to be two converging movements in the recent development of the trusteeship system, one tending to enlarge the power of U N to the point of taking actual part in the process of administration in trust territories and the other to extend methods of internationalization to all non-selfgoverning territories. By the charter the proper role of U.N. was to watch, criticize, admonish if need be and generally supervise territories administered under trust, but not to take any part in the actual process of administration. Finally, at the close of the session, a majority of the nations in the U.N. fourth general assembly gave further evidence of the increasing pressure which might be brought to bear on colonial powers. This was especially clear in their attitude towards the Union of South Africa's refusal voluntarily to transfer South-West Africa, which they persisted was held under a mandate, to a trust territory under U.N. Three measures were taken A resolution was adopted calling on South Africa to resume the submission to the assembly of annual reports on South-West Africa. What might become a precedent was created by the hearing given by the assembly to the Rev. Michael Scott (*q.v.*) on behalf of the Herero tribe, inside a former mandated area. Lastly, the International Court of Justice at The Hague was asked

TRUST AND MANDATED TERRITORIES

Territory	*Area* (in sq mi.)	*Population*	*Date of League of Nations Mandate*	*Date of United Nations Trusteeship*	*Administering Authority*
South-West Africa*	317,725	(1941 est.) 321,300 (incl 33,600 Europeans)	Dec. 17, 1920	—	Union of South Africa
Togo, comprising					
(1) Togoland, *i.e.*, western section, excluding the seaboard	13,041	(1940 est.) 391,500 (incl 43 Europeans)	July 20, 1922	Jan 25, 1947	Great Britain
(2) Togo; *i.e.*, eastern section and seaboard	22,463	(1947 est.) 944,500 (incl 841 Europeans)	July 20, 1922	Jan 25, 1947	France
Cameroons, comprising.					
(1) Cameroons adjoining Nigeria	31,150	(1947 est.) 991,000	July 20, 1922	Jan. 25, 1947	Great Britain
(2) Cameroons adjoining French Equatorial Africa	169,436	(1948 est.) 2,902,400 (incl 6,513 Europeans)	July 20, 1922	Jan. 25, 1947	France
Tanganyika	362,688	(1948 census) 7,074,160 (incl 10,648 Europeans)	July 20, 1922	Jan 25, 1947	Great Britain
Ruanda-Urundi	20,120	(1948 est.) 3,386,362 (incl 2,349 Europeans)	July 20, 1922	Jan 25, 1947	Belgium
New Guinea, Territory of, comprising					
(1) Northeastern New Guinea	69,700				
(2) Bismarck archipelago	19,200	(1941 est.) 690,500 (incl 3,412 Europeans)	Dec 17, 1920	Jan 25, 1947	Australia
(3) Certain of the Solomon Islands (Bougainville, etc.)	4,100				
Western Samoa, comprising Savaii, Upolu, etc	1,133	(March 1949 est.) 75,361 (incl 297 Europeans)	Dec 17, 1920	Jan 25, 1947	New Zealand
Nauru	8	(June 1948 est.) 3,162	Dec 17, 1920	Nov 15, 1947	Australia
Pacific Islands N of the Equator, comprising.					
(1) Marianas or Ladrone Islands (except Guam)					
(2) Caroline Is., together with Yap Is., and Palau Is.	687	(1949 est.) 53,000	Dec 17, 1920	April 2, 1947	U S A (formerly Japanese mandates)
(3) Marshall Islands					

*Controversial status

for an opinion on three questions. "What are the international obligations of the South African government in this former mandated area?" "Has the South African government the right to modify the international status of South-West Africa (a problem hotly debated under the League of Nations) If not, who has the right?" "Is South-West Africa subject to the provisions of chapter xii of the charter?"

(M FE.)

TUBERCULOSIS. Although the tuberculin test remained the only practical method of diagnosing tuberculosis early in its development, P. Courmont, Switzerland, stated that he was able to diagnose before tissues became sensitive to tuberculin, by serum agglutination

E. Friedman, Boston, found that anti-histamine medication had no effect on the tuberculin reaction. W W. Jones *et al*, Denver, confirmed the fact that repeated testing with tuberculin did not cause people to become reactors nor did it accentuate or suppress sensitivity already present.

In Great Britain a bill to ensure the greater freedom of children's milk from the dangers of tuberculosis passed its second reading in the House of Commons. Dr. Edith Summerskill said that 1,500 deaths had occurred each year from milk containing tubercle bacilli and many more thousands were crippled. G S Wilson stated that, in the rural areas, the percentage of children infected was 10 times greater because more milk was consumed there than in London. The number of attested herds had been doubled since 1944 and about 16% of the cows in Great Britain belonged to such herds

In Brazil the mortality rate was 246 per 100,000 population. A. A. Dufourt stated that there had been a great reduction in the death rate from tuberculosis in France since 1900, but there were long waiting lists for sanatorium beds. In Greece, the rate was approximately 250 per 100,000 and there were fewer than 5,000 sanatorium beds G. Hensel stated that 80% of the children leaving school in Germany reacted to tuberculin, against 30 to 40% before World War II.

B. Mann stated that in India 500,000 persons died annually from tuberculosis. G. R. Kokatnur estimated the number of active cases at 2 million, for about 1% of which sanatorium beds were available In Turkey, the mortality rate was 267 per 100,000. Free government sanatoriums and hospitals had a patient waiting list of about 3,000.

The 1948 mortality rate from tuberculosis in the United States was slightly less than 30 per 100,000 of the population. There was evidence suggesting that it was in the vicinity of 27 in 1949—total 48,000—the lowest of any nation in the world with the possible exception of Australia. Approximately 103,819 beds were available. A. Reifel, Detroit, pointed out that the mortality from tuberculosis among Red Indians was five times that of the general population.

By a surgical procedure known as decortication, J. A. Weinberg, *et al.*, California, expanded lungs which had been collapsed by artificial pneumothorax and were otherwise unexpandable. G. W. Wright, Saranac Lake, New York, and J. G. Gordon, *et al*, Ray Brook, New York, found that some such lungs do not function normally even though they are well expanded.

J. H. Grindlay, Minnesota, removed one lung from each of 21 dogs and in each case replaced the lung with a single unit prosthesis consisting of a roughly lung-shaped bag of polythene filled with fibre glass. This experimental work gave promise of leading to the development of a suitable prosthesis to replace the large undesirable spaces which result from the removal of diseased lobes or lungs in humans.

S. A. Waksman, New Brunswick, New Jersey, reported that a new antibiotic, neomycin, was more active than other antibiotics against both pathogenic and saprophytic microbacteria. It was active against both streptomycin-sensitive and resistant microbacteria; moreover, it did not allow a rapid development of resistance among the organisms as did streptomycin.

One of the thiosemicarbazonens designated as T.B.1/698 announced by Domagk in 1946 was reported by F. Knuchel, *et al*, and J. Hartung, Germany, as having a beneficial effect on tuberculosis lesions.

The effects of streptomycin on tuberculosis had been carefully investigated by the United States Veterans administration in co-operation with the army and navy for three years and its usefulness and limitations had been fairly well

delineated. In 1949 these studies were extended by examining the effects of dihydrostreptomycin and para-aminosalicylic acid. This gigantic study included the administration of these new drugs to 7,000 tuberculous veterans. Streptomycin conferences of physicians in the various veterans hospitals were held regularly.

No drug was found which would destroy tubercle bacilli in human and animal tissues. However, para-aminosalicylic acid and the antibiotics—streptomycin and dihydrostreptomycin—have a bacteriostatic effect on these organisms. Thus they suppress the disease temporarily, especially in acquired lesions. The problem of tubercle bacilli becoming resistant to streptomycin was partially solved by alternating this drug with para-aminosalicylic acid. C. W. Tempel, Denver, Colorado, employed an intermittent dosage schedule by which tubercle bacilli acquired resistance to streptomycin much later than when the drug was administered daily.

Although there was no new substantial evidence concerning the value of methods which were used with the hope of providing immunity to tuberculosis, enthusiasm ran high in some parts of the world over the use of BCG (Bacillus Calmette-Guérin) and the vole tubercle bacillus vaccine. Headed largely by Danish workers through the World Health organization, governments of nations were solicited to sanction prophylactic vaccinations against tuberculosis with BCG of 15 million children and young adults mostly in Europe and Asia.

The World Health organization established an Expert Committee on Tuberculosis and a Tuberculosis section. The second assembly was held in June 1949. All countries were invited to submit their requests for tuberculosis work with special reference to demonstrations in X-ray work, tuberculin testing, BCG, special forms of therapy and fellowships. (J. A. My.)

TUNISIA: *see* French Union.

TUNNELS. Construction of tunnels for sewer, water supply, drainage, railway and road schemes throughout the world was unusually active in 1949. New techniques used in tunnel driving included machines that excavated the face in soft rock, eliminating drilling and blasting; and mechanical booms that used heavy drifter drills mounted on drill carriages.

In Scotland many tunnels were under construction for the North of Scotland Hydro-Electric board. Those driven through during the year included the Clunie tunnel for the Tummel-Garry scheme, and the Sloy tunnel. The Clunie tunnel was the largest water tunnel in Great Britain, being 23 ft. in diameter. Work continued on other tunnels including those of the Affric scheme, where two tunnels each of 3·3 mi. made good progress, the Fannich scheme, 3·7 mi., and the Cowal scheme.

The boring of the cyclists' tunnel, 12 ft. in diameter, under the river Tyne from Jarrow to Howdon was completed. Work was proceeding on the nearby pedestrians' tunnel

In England British Railways were driving the new Woodhead double track tunnel between Manchester and Sheffield. The 11-ft. Bowland Forest tunnel, 10 mi. long, was under construction near Manchester as part of the city's new Haweswater water supply line. Contracts were let late in 1949 for two more tunnels, Haslingden and Walmersley, totalling 11½ mi., on the same scheme.

In Italy 13 tunnels on 8 hydro-electric schemes were under construction, the longest of these being the Piave di Cavore-Vaiont tunnel, 15 ft. in diameter and 11 7 mi. in length. The Acquedotto Romano del Peschiera water supply scheme, under construction in 1949, included several tunnels, the longest being 49 mi.

In Germany two tunnels totalling 4·3 mi. were completed in Oct. 1949, on the Rissbach hydro-electric scheme in the Bavarian alps.

The only major tunnel under construction in France during 1949 was the four-lane Croix-Rousse highway tunnel at Lyons, 39½ ft. in diameter and 1¼ mi. long. Hydro-electric tunnels were also under construction in Switzerland, Sweden and Norway. In Italy seven railway tunnels were being driven; the longest being the Lupacino tunnel, 4·7 mi., on the Lucca-Aulla line.

In the United States the 4,200 ft.-long twin-tube Squirrel Hill traffic tunnels were driven through at Pittsburgh. The Union Pacific railway opened up its 6,700 ft. Aspen tunnel in Wyoming, eliminating the last single-track bottleneck on the main line between Omaha, Nebraska, and Ogden, Utah. In West Virginia the Norfolk and Western railway completed two double-track tunnels, 7,000 ft. long, the largest in cross-section ever driven for railroad traffic.

On New York city's Delaware river water supply system, the 6 mi. Neversink tunnel was approximately half finished, and the 25 mi. Downsville tunnel was begun. In Baltimore, Maryland, the 7 mi. Montebello-Liberty Road water tunnel was completed and the 10 mi. Liberty Road-Patapsco water tunnel was under construction. The 5·5 mi. city tunnel at Boston, Massachusetts, was driven through.

The Pacific Gas and Electric company continued to make progress on the two tunnels of its Feather river hydro-electric development in California. Los Angeles, California, started work on three long 10 ft. tunnels for new hydro-electric plants in its Owens Valley water development.

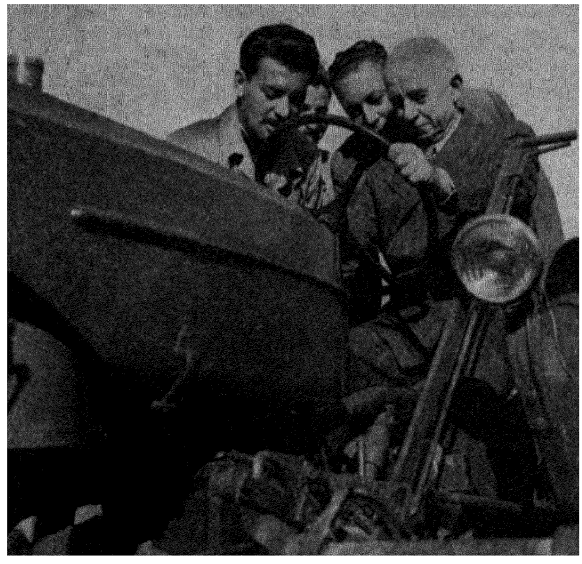
In Latin America the Puerto Rico water resources authority was extending the Caonillas hydro-electric scheme by diverting three rivers, the Upper Arecibo, Pellejas and Vivi into the Caonillas reservoir through four successive 7 ft. tunnels which were all started in 1949. In Chile the quarter-mi. Angostura two-lane road tunnel on the Pan American highway, south of Santiago, was completed in August.

Lerma tunnel, 10 mi. bore and the longest in Mexico, was driven through in 1949 and concrete lining was to be completed in 1950 to alleviate Mexico City's water shortage.

In Brazil two large hydro-electric tunnels—the Santa Cecilia and the Vigaria—were being built by the Brazilian Traction, Light and Power company for its Barro do Pirai scheme in the state of Rio de Janeiro.

In Japan fifteen road tunnels, from 20 to 33 ft. in diameter, and up to ½ mi. long were under construction. In India two ½ mi. tunnels 50 ft. in diameter were being driven as river diversion for Bhakra dam, Bhakra-Nangal hydro-electric scheme, in East Punjab. Two 11 ft. tunnels, each 1¼ mi. long, were under construction on the Sengulum hydro-electric scheme in Travancore. (H. W. Rn.; X.)

TURKEY. A republic in the southeastern Balkans and Asia Minor, bounded on the west by the Aegean sea, on the northwest by Greece and Bulgaria, on the north by the Black sea, on the northeast by the U.S.S.R., on the east by Persia and on the south by Iraq, Syria and the Mediterranean. Area: 296,184 sq. mi. (including 9,256 sq. mi. in Europe). Pop.: (1927 census) 13,648,270, (1945 census) 18,790,174, (June 1949 est.) 19,750,000. According to 1945 census, European Turkey had 1,496,612 inhabitants (165 per sq. mi.) and Anatolia 17,293,562 (59 per sq. mi.). Languages (1935 census): Turkish 86 8%, Kurdish 9·3%, Arabic 0·9%, Greek 0·7%, Circassian 0·6%, Armenian 0·4%, Georgian 0·5%, other 0·8%. Turkey being a lay state, no religion has primacy, although 97·7% of the population is Moslem. Other religions (1935 census): Christian 226,167 (Greek Orthodox 125,046, Gregorian Armenian 44,526, Roman Catholic 32,155, Catholic Armenian 11,229, Protestant



President Ismet Inönü of Turkey (right) at the wheel of a tractor at the state agricultural school, Ankara, Nov. 1949.

8,486, other Christian 4,725); Jewish 78,730. According to 1935 census 962,159 Turkish citizens were foreign-born, including 367,801 in Greece, 227,464 in Bulgaria, 158,145 in Yugoslavia, 69,798 in the U.S.S.R. and 61,649 in Rumania. Chief towns (1945 census): Ankara (cap., 226,712); Istanbul (*q.v.*) (860,558); Izmir (198,396); Adana (100,780); Bursa (85,919); Eskişehir (80,030). President of the republic, Ismet Inönü (*q.v.*); prime minister, Şemsettin Günaltay (*q.v.*); minister of foreign affairs, Necmettin Sadak (*q.v.*).

History. Once again January was marked by a political crisis, when Hasan Saka tendered his resignation, his second cabinet thus coming to an end after seven months of political power. The president offered the premiership to Şemsettin Günaltay. This selection came as a surprise, for the new premier was not widely known and had never held high office. He had, however, played an influential part within the Republican Popular party, of the last general congress of which (in 1947) he had been chairman. He retained four members of the old government and his cabinet was regarded as a cross section of his party, marked by the inclusion of fresh young men. His government was received by the press without enthusiasm and with prophecies of a short life; but by the end of 1949 the Günaltay cabinet had already enjoyed a longer life than its predecessor. Its programme, opening with the assertion of continuity of the consistent policy of Turkey, proposed a reform of the electoral and press laws, neither of which met with any sympathy on the part of the opposition, and party politics became sharper. A powerful weapon in the hands of the opposition was the fact that the president of the republic was at the same time a party man, being president general of the Republican Popular party, and the opinion was that he should divest himself of this political attribute. In June there was a shuffle in the cabinet but rumours of an impending resignation were falsified.

In the autumn a brief sensation was provoked by the announcement of a revolutionary plot, attributed to the National party, in which the president was to be murdered. This was clothed in such a fantastic atmosphere of contradictions that it was quickly dismissed and enquiry abandoned. The government, while upholding the principle of the lay state, authorized the creation of a faculty of religion at the University of Ankara and religious instruction was to be permitted in the schools.

Of Communism less was heard than in previous years. A few Communist slogans with sickles and hammers were scribbled on walls but, it seemed, by irresponsible persons and no sign of serious movement was reported. There was a certain infiltration of Communist literature from Bulgaria and a few magazines were sent to schools through the post but these were hardly taken seriously. The occasional troubles on the frontiers, in keeping with ancient tradition, were sometimes attributed to Communist inspiration. Such a case was a Kurdish raid from the Persian side during the summer, with the customary robberies, in which several of the raiders were shot.

Foreign Relations. In foreign affairs the policy of Turkey remained unchanged. It was based on the desire to develop a democracy on western lines, with friendship all round. Turkey sought no territory, but would not yield an inch of her own. On this line all its statesmen were firm. With the United States relations were most cordial, in view of the great contributions made by America towards the development of Turkey, the construction of roads—its most vital requirement—the equipment of its agriculture and its fighting services on modern lines. The ancient friendship between Turkey and Great Britain, which began three hundred years ago, remained as strong as ever. A certain disappointment was felt that the North Atlantic treaty was not accompanied by a Mediterranean pact including Turkey. The Turks were resolved to play their full part in international movements in favour of peace and their representatives joined in August the ministerial committee and the consultative assembly of the Council of Europe at Strasbourg.

Turkey's relations with her neighbours were cordial or at least correct. A trifling, but unpleasant, incident in Athens—where the crowd had applauded Italian football players more cordially than the Turkish—cast a momentary chill upon Turco-Greek friendship.

Resentment against the U.S.S.R. was caused by the mysterious death—reported as suicide—in the train between Moscow and Batum of Fuat Güzaltan, a former captain of general staff, the Turkish diplomatic courier. The press regarded this as an assassination and matters were not improved when the U.S.S.R. submitted a bill for £T40,000 for the cost of the inquiry and return of the body.

Relations with Bulgaria were strained by several frontier incidents, such as the kidnapping of Turkish soldiers and peasants on the frontier and the explosion of a bomb at the Turkish consulate at Plovdiv. These were not mollified by the stories told by Turkish refugees of the ill-treatment of their kinsmen in Bulgaria. Diplomatic relations were established with Israel, India and Pakistan.

Economics. The year was economically a critical one for Turkey. Prolonged drought ended in a failure of the harvest and in places violent floods caused immense damage and loss of life. From being a substantial exporter of grain, Turkey was obliged to import £T40 million of wheat from the United States, Canada and elsewhere.

The fish catches were also poor and a contractor who had agreed to provide the British government with preserved fish to the value of £500,000 was unable to fulfil his obligations. Further, it was reported in the press that Turkey, a fish exporting country, had actually imported preserved fish.

The devaluation of the pound sterling, though long rumoured, came as a bombshell in commercial circles. The government at once announced that the Turkish lira would not be devalued and the Central bank quickly stated that the new rate of the Turkish lira to the pound sterling would be £T7·87 to 7·91 instead of £T11·28. American help continued on a moderate scale; the allocation to Turkey, proposed by the O.E.E.C. on Oct. 13, amounted to $59 million.

In foreign trade there was a great reduction in compensation business, to the satisfaction of those who saw in it the main cause for the fluctuation of prices. A marked feature was the revival of trade with Western Germany. It should be remembered that before World War II Germany supplied 45% of Turkish imports and took 43% of Turkish exports.

Turkish civil aviation was successful. It held the record for the lowest rate of accidents. Whereas Turkish airlines carried 73,000 passengers in 1948, the 100,000 mark was passed in 1949. In 1948 the profit made was shown as £T3 million: in 1949 it was more than £T4 million.

Miscellaneous. Laying the foundation stone of a new tuberculosis hospital at Ankara, the prime minister pointed out that a law had been passed to establish associations to fight consumption and expressed the hope that by 1959 the number of such hospitals would be doubled It was the intention to set up a network of them over the country

Turkish women played an increased part in public life. As doctors they were winning the confidence of the public. In literature, and even in the practice of law, women were successful. To the existing feminine organizations was added a Society for Social Assistance for the Protection of Women. There was vast scope for the instruction of women of the poorer classes in general hygiene, the care of children, maternity and treatment of the sick.

In education steady progress was being maintained and it was stated that in 1949 about a thousand new schools were opened. About 1,900 Turkish students were studying abroad.

Interest, not unmixed with irony, was roused by a private American expedition to search for the remains of Noah's ark on Mount Ararat. As this is a frontier district, the military authorities were concerned and it had some political repercussion: the U.S.S.R. would not credit it as a genuine scientific search and regarded it as an attempt at spying on their territory. (MA. BR.)

Education. Schools (1947-48) primary 15,317, teachers 30,708, pupils 1,487,997, secondary 265, teachers 3,845, pupils 63,135; *lycees* 86, teachers 1,862, pupils 23,744, vocational 231, teachers 4,408, pupils 66,649, institutions of higher education 34 (including the universities of Ankara and Istanbul), teaching staff 1,437, students 25,648. Illiteracy (1935) men 76 7%, women 91 8%; (1945) men 49 2, women 77 5%

Agriculture. Main crops ('000 metric tons, 1948, average for 1934-38 in brackets) wheat 4,854 (3,708); barley 2,163 (2,075), maize 701 (557), rye 517 (368), oats 339 (247), potatoes 462 (181), sugar beet 721 (432); tobacco 74 0 (55 4), cotton, ginned, 52 (52) Livestock ('000 head, Jan 1948, Jan 1939 in brackets): sheep 23,500 (25,221), goats 13,500; cattle 9,761 (9,311), mohair goats 3,975, asses 1,725 (1,387), horses 1,071 (964), buffaloes 916, merino sheep 172, camels 98; mules 96 (74); poultry 24,410

Industry. Industrial state aided establishments (1941) 931, persons employed 31,110. Fuel and power (1949, 1938 in brackets) coal 4,140,000 (2,589,000) metric tons, electricity 663 (312) million kwh Metals ('000 metric tons, 1949, 1938 in brackets) iron ore, metal content, 207 (76 8), blister copper 10 7 (2 3), chrome ore, Cr_2O_3 content, 50 0 (106 5) Raw materials ('000 metric tons, 1949) pig iron 110 (1939 13), steel 101 (1940 38), cement 428 (1937-38 287), cotton yarn 30 (1937-38 19 7), wool yarn 8 (1937-38 4 5)

Foreign Trade. (Million £T, 1949, in brackets 1948) Import 812 6 (770 1), export 693 9 (551 0) Principal commodities exported (1949) tobacco 37 5%, dried fruit and nuts 13 4%, cotton 11% Principal items imported machinery 21 5%, cotton and wool, yarns and manufactures 15 9%, iron, steel and manufactures thereof 10 7%; wheat 5%, motor vehicles 4 7% Main sources of import (1949) United States 20%, United Kingdom 17 3%, Czechoslovakia 7 7% Main destination of exports Western Germany 16 1%, U S 14 3%, U K 12 3%

Transport and Communications. Railways (1948) 7,613 km , rolling stock locomotives 991, passenger coaches 1,853, goods wagons 18,663. Railway traffic (1948, 1938 in brackets) 2,304 (1,044) million, passenger km. and 2,294 (1,156) million tons-km Roads (1947) 43,462 km , including 9,040 km metalled (of which 75% in need of repair). Motor vehicles registered (1947) cars 4,890, lorries and buses 10,310. Shipping (1948) total tonnage 241,000 gross registered tons Telephones (1948) subscribers 43,114 Wireless (1948) licences 223,356

Finance and Banking. (Million £T) Budget (1950 est , 1949 revised est in brackets): revenue 1,313 3 (1,251 8), expenditure 1,487 2 (1,371 9) Money deposit (May 1949) 819, (May 1948) 718 Currency circulation (Nov 1949) 951, (Nov 1948) 1,008. Gold reserves (million U S $): (Nov 1949) 154, (Dec 1945) 240 7 Currency the *lira* or Turkish pound with an exchange rate of £1 £T7 875 (£T11 334 before Sept 18, 1949) and $1 £T2 825

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UBANGUI-SHARI: *see* FRENCH UNION

UGANDA: *see* BRITISH EAST AFRICA.

UNDÉN, ÖSTEN, Swedish statesman (b. Karlstad, Aug 25, 1886), studied law at Lund and became professor of civil law at Uppsala (1917-37); he was also rector of Uppsala (1929-32) After a period as cabinet minister without portfolio (1917-20) and minister of justice (1920) he served as minister of foreign affairs from 1924 to 1926 and again from 1945 onwards. Between 1930 and 1933 he was chairman of three international courts of arbitration. When the bill empowering the Swedish government to take steps to bring the country into the United Nations was presented to the Riksdag in 1946 Undén pointed out that the sanction obligations which the members undertook could only be implemented if the permanent members of the security council were unanimous; with regard to the possibility of a conflict breaking out, instead, between the permanent members, he said that he did not believe the Swedish people felt inclined to ally themselves, in advance, with any group of great powers for "a safer insurance." He took the initiative in negotiations with Denmark and Norway regarding the formation of a defensive Scandinavian alliance on the basis of neutrality He made it clear, however, that Sweden would not, despite the east-west crisis, join a bloc "by way of a Scandinavian alliance either" (May 9, 1948); earlier he had, nevertheless, called the struggle against Swedish Communists "part of the watch that must be kept to guard Sweden's freedom and independence" (March 18, 1948). At the Inter-Parliamentary conference (Sept. 8, 1949) Undén asked whether a country in the position of Mexico, for instance, would be expected to gain in security through a military pact with the U S.S.R. He attended the first meeting of the Council of Europe (Aug 1949). (E. J. L.)

UNION OF SOVIET SOCIALIST REPUBLICS. After the revolution of 1917 the former Russian empire, a Eurasian state covering parts of eastern Europe and northern and central Asia, became on Dec 30, 1922, a federation of soviet socialist republics. Area (Sept. 17, 1939): 8,173,557 sq mi. Pop. (Jan 17, 1939, census): 170,467,186. In 1939 the union consisted of 11 republics of which the Russian Soviet Federated Socialist republic was by far the largest (78% of the whole territory and 64% of the population) Of the remaining 36% of the population, almost one-half lived in the Ukrainian Soviet Socialist republic (2% of the territory) and the other half in the nine other republics of the union The U.S.S.R. is inhabited by almost 100 different nationalities speaking different languages. In Jan. 1939 Russians constituted 58 4% of the population, Ukrainians 16 6% and Byelorussians 3 1%. None of the other nationalities, all non-Slav and most of them non-Europeans, reached 3% of the total The most important were Uzbeks 2 9%, Tartars 2 5%, Kazakhs 1·8%, Jews 1 8%, Azerbaijanis 1 3%, Georgians 1 3% and Armenians 1 3%

In 1939 the U S.S.R. consisted of the following republics:

	Capital	Area (sq mi)	Population
Russian S F S R	Moscow	6,372,860	109,278,614
Ukrainian S S R	Kiev	171,777	30,960,221
Byelorussin S S R	Minsk	49,022	5,567,976
Georgian S S R	Tiflis (Tbilisi)	27,020	3,542,289

	Capital	Area (sq. mi.)	Population
Azerbaijan S.S.R.	Baku	33,196	3,209,727
Armenian S.S.R.	Erivan	11,580	1,281,599
Uzbek S.S.R.	Tashkent	145,908	6,282,446
Kazakh S.S.R.	Alma-Ata	1,059,184	6,145,937
Kirghiz S.S.R.	Frunze	76,042	1,459,301
Tadzhik S.S.R.	Stalinabad	55,584	1,485,091
Turkmen S.S.R.	Ashkhabad	171,384	1,253,985

Between 1939 and 1945 the U.S.S.R. considerably expanded its territory. In Europe the following areas were annexed:

	Area (in sq. mi.)	Population
Estonia	18,357	1,134,000
Latvia	25,395	1,994,500
Lithuania (including the Wilno area)	25,173	3,032,000
From Finland	17,596	100,000*
From Poland (excluding the Wilno area)	64,824	10,315,000
From Rumania (Bessarabia and N. Bukovina)	19,338	3,650,000
From Czechoslovakia (Subcarpathian Ruthenia)	4,856	725,400
From Germany (N.E. part of East Prussia)	5,096	830,000

* About 400,000 Karelians left in 1944 to resettle in Finland.

In Europe the territorial possessions of the U.S.S.R. had increased by 180,635 sq. mi., an area twice as large as the United Kingdom, and with a population of 21,780,900. From Japan the U.S.S.R. acquired Karafuto (southern Sakhalin), an area of 13,935 sq. mi. with a population of 331,900, and the Chishima or Kurile Islands (3,994 sq. mi.; pop. *c.* 90,000). In addition the formerly "independent" republic of Tannu Tuva (64,000 sq. mi.; pop. *c.* 65,000) was annexed to the union.

As the result of this territorial expansion the U.S.S.R. after World War II formed a federation of 16 republics. The five new ones were: the Karelo-Finnish S.S.R. (cap. Petrozavodsk), consisting of the territory ceded by Finland and of the former autonomous Soviet Karelia; the Moldavian S.S.R. (cap. Chişinau or Kishinev), consisting of most of Rumanian Bessarabia and the former autonomous Soviet Moldavia; and Estonia (*q.v.*), Latvia (*q.v.*) and Lithuania (*q.v.*) transformed into Soviet republics. Total *de facto* area: 8,436,121 sq. mi.

Addition of the figures quoted above would give a total population of 192,735,000. The official estimate for 1940 was 193 million (E. Davydov in *Bolshaya Sovietskaya Entsiklopedia*: *S.S.S.R.*, suppl. vol., Moscow, 1948). The only postwar estimate, published in *Pravda* of Jan. 23, 1946, by Gheorghy F. Alexandrov, then propaganda chief of the All-Union Communist party, gave the same figure. If this were correct, it would be necessary to assume that by 1946 Soviet war losses were compensated by the natural increase of population. The only official estimate of the numbers killed in fighting was given by Andrey A. Zhdanov in a speech on Nov. 6, 1946, as 7 million. General A. Guillaume, who during World War II was chief of the French military mission to the Soviet Union, estimated the number of killed at 7·5 million, of severely wounded or sick who died later at 3 million and the number of civilians killed or dying from hunger or exhaustion at 11 million.

Chief towns (1939 census): Moscow (*q.v.*) (4,137,018); Leningrad (3,191,304); Kiev (846,293); Kharkov (833,432); Baku (809,347); Gorki, formerly Nizhny Novgorod (644,116); Odessa (604,223); Tashkent (585,005); Tiflis (519,175); Rostov-on-Don (510,253); Dnepropetrovsk (500,662). Chairman of the presidium of the supreme soviet of the U.S.S.R., Nikolay M. Shvernik; chairman of the council of ministers, Marshal Joseph V. Stalin (*q.v.*); minister of foreign affairs, Andrey Y. Vyshinsky (*q.v.*).

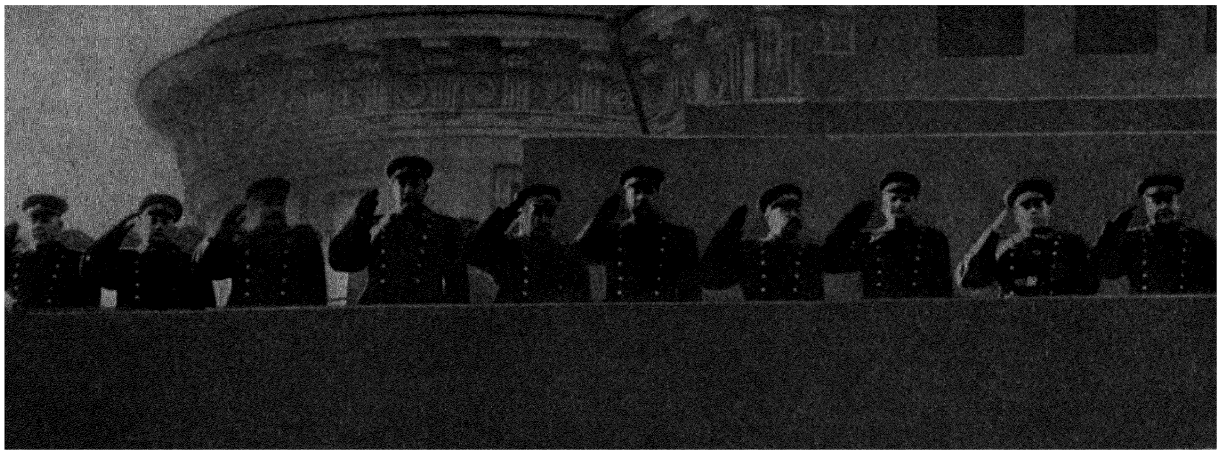
History. The year 1949 in the history of the U.S.S.R. was notable for events both in the external field and also in internal affairs such as the announcement concerning an atomic explosion on Soviet territory which seemed to bear directly on the relations between the Soviet Union and other powers. As far as internal history was concerned, external



Ernest Bevin is here depicted by B. Efimov in "Izvestia" (Moscow) as the "protector" of the "fascist" regimes of Marshal Tito (Yugoslavia), K. Tsaldaris (Greece) and Rhee Syngman (Korea).

observation could detect little that was new. It was generally assumed that, under much the same leadership as previously, the ideological, economic and administrative patterns of Soviet society and government were being steadily consolidated with little to indicate the success or failure of such efforts beyond the somewhat controversial statistics about economic achievements that the Soviet government from time to time put forth. Despite such events as the Congress of the Supporters of Peace which met in Moscow on Aug. 29, there was still the minimum of contact between the peoples of the Soviet Union and those of the rest of the world, since the foreign delegates to such functions were chosen from those known in advance to be devoted to the Soviet cause and the occasional visits abroad of Soviet intellectuals were clearly also intended as methods of spreading propaganda rather than of genuine inquiry. The limitations upon the freedom of movement of members of the Moscow diplomatic corps; the continued evidence of the disfavour with which Soviet citizens employed by, or having contacts with, foreigners were regarded by their own government; the small number of foreign journalists stationed in the Soviet Union (only the *Daily Worker* being represented among London newspapers); and even such a thing as the compulsory channeling of the exchange of books and periodicals through a department of the Soviet foreign ministry—were all in the nature of supports for this policy of self-isolation. In view of this policy reports about disputes within the Soviet hierarchy and matters connected with the eventual succession to the authority of Marshal Joseph Stalin were rightly treated with total reserve by responsible commentators in other countries.

This self-isolation was, however, itself a part of a general attitude on the part of the Soviet regime that explained its attitude to the various matters that arose in foreign affairs. One could sum it up by saying that during 1949 the object of the Soviet Union seemed to be to consolidate its hold over the eastern European countries which it dominated to the extent that this was possible without an armed breach with the western powers and without formally renouncing the principal foundations of the postwar settlement, the



*Soviet army and party leaders watching the celebrations in Moscow on the 32nd anniversary of the 1917 revolution. Left to right, Marshal N. D. Yakovlev; General A. V. Khrulev, inspector of the reserve formations; General S. M. Shtemenko, chief of staff; Marshal N. N. Voronov, inspector of artillery; Colonel General P. F. Zhigarev, deputy commander of the air force; Marshal L. A. Govorov ¶; Marshal S. M. Budenny ¶; Marshal V. D. Sokolovsky ¶; Marshal A. M. Vasilevsky, minister of defence; Marshal N. A. Bulganin *†*

¶ Deputy Minister of Defence * Member of the Politburo † Deputy Prime Minister

United Nations charter and the Potsdam agreement. To this primary object, other issues both political and economic appeared wholly subordinate.

Assimilation of People's Democracies. In as far as the so-called satellite countries were concerned, the process of assimilation into the Soviet system was carried on with little interference from the rest of the world. It took the form of combating what appeared to be the most powerful forces opposing the process—religious organizations, in particular the Roman Catholic Church in Hungary, Poland and Czechoslovakia, and those elements which might seek to give local Communism a nationalist twist in the form of an insufficient subordination of local matters to the total requirements of Soviet planning. It also took the less spectacular form of continuing the transformation of the political and economic institutions of the so-called people's democracies into the single-party socialism of the Soviet Union itself. In each case, since the countries maintained a formal independence, it is proper to treat these issues as belonging to their own internal history; but for the sake of example one might point to Hungary (*q.v.*) as exemplifying all these tendencies. The trial of Cardinal József Mindszenthy in February marked one stage of the struggle, that of László Rajk in September, the other. In between, in August, a new constitution had been adopted, closely modelled on the 1936 Soviet constitution. But for the fact that the collectivization of agriculture was still in the future, it could be argued that the final stage in such assimilation—the incorporation of Hungary within the Soviet Union—was not far off. Still more striking an evidence of the completeness of Soviet control was provided by Poland (*q.v.*). It was there announced early in November that the Soviet Marshal K. K. Rokossovsky, a Pole by birth, had been released by the Soviet Union to act as commander in chief and minister of defence of Poland and had assumed Polish citizenship for the purpose. In face of such demonstrations of Soviet power, there was little to be hoped for from western protests about the violations of human rights under the peace treaties to the three ex-German satellites or from the protest in November against the convening of a conference to carry out the decisions regarding Danubian navigation contained in the Belgrade convention of Aug. 18, 1948.

It was argued that some at least of the Soviet intransigence where local Communist attitudes were concerned was due to the fear that the successful resistance of Marshal Tito to the economic and propaganda weapons of the Cominform might inspire emulation elsewhere. There was indeed no doubt but that the Tito "heresy" was regarded with more aversion than outright capitalism, since the ideological foundation of the Soviet position was that there could be no half-way house between total acceptance of the Soviet lead and full participation in the alleged aggressive plans of the war-mongering Anglo-Saxon imperialists. The Soviet Union took, therefore, a full share in the increasing pressure brought upon Tito (*see* YUGOSLAVIA).

Soviet Policy in Germany. The course of events in Germany, where the year began with the Berlin airlift still in progress and with consequent tension between the Soviet Union and the western powers, was more complicated. After some rather oblique approaches from the Soviet side, the foreign ministers eventually met again at the end of May and after a month of discussion sufficient agreement on the local issue was reached to permit the partial lifting of the Soviet "blockade" and the gradual winding up of the airlift in the autumn. Nevertheless, the affairs of Berlin (*q.v.*) continued to add their quota of trouble to the international situation. On the other hand, in the second half of 1949, attention shifted to more general aspects of the German problem, with the Soviet authorities still torn apparently between their fear of a revived German nationalism and their determination to make what they could out of their claims to be the real protagonists of German unity and of their contention that it was the western allies who were splitting the country. Matters were precipitated by the inauguration of the Bonn government in Western Germany; at the beginning of October the Russians countered this move by setting up a German people's republic in the eastern zone. The form of the new regime was closely modelled on that of the other satellite countries and it had all the appurtenances of sovereignty including a foreign minister. But despite a message (Oct. 13) from Marshal Stalin to Wilhelm Pieck, president of the new republic, in which the Soviet leader referred to these events as a "turning point in the history of Europe," it rapidly became clear that the Russians were not proposing in the immediate future either to withdraw their troops or to hand over the levers of control. The appointment of a Soviet diplomatic representative to the new government did not appear to diminish the importance of the position of General Vasily Ivanovich Chuykov, transformed into the head of a control commission, nor of his political advisers, Ivan



Marshal K. E. Voroshilov†; V. M. Molotov*†; G. M. Malenkov*†; L. P. Beria*†; A. A. Andreyev*†; L. M. Kaganovich*†; N. M. Shvernik*, chairman of the presidium of the Supreme Soviet; A. N. Kosyghin*†; N. A. Suslov‡; G. M. Popov, former secretary of the Moscow committee of the All-Union Communist party (V.K.P.), from Jan. 1950 minister of town planning; P. K. Ponomarenko‡ and M. F. Shkiryatov‡.*

* Member of the Politburo † Deputy Prime Minister ‡ Secretary of the Central committee of the All-Union Communist party (V.K.P.)

Fedorovich Semichastnov and Vladimir Semenovich Semenov. The Russians appeared unwilling to do anything that might render more difficult contacts between their friends in Eastern and in Western Germany or to make impossible a resumption of four-power talks under the provisions of the Potsdam agreement which they continued to invoke (*see* GERMANY).

Soviet Policy in China. Outside Europe the most important area of Soviet interest was China where the collapse of the main Nationalist resistance led to sweeping advances by the Chinese Communist forces. The Soviet government did not appear to wish to precipitate a crisis in this field, for instance by immediate insistence on the replacement of the Chinese delegation at U.N.; but all evidence pointed to a continued close connection between the Chinese Communists and the Russians. In October it was reported that large numbers of Soviet technical staff had arrived in Peking; and in as far as divisions of opinion among the Chinese Communist leaders could be detected, it was held that the pro-Soviet wing headed by Liu Shao-chi, secretary general of the party, had clearly got the upper hand. It was he who made the keynote speech at the conference of Trade Unions of Asiatic and Australasian countries, held in Peking in November, at which a permanent bureau was set up to perform, it seemed, the functions of a Cominform for the far east (*see* CHINA; COMMUNIST MOVEMENT).

Atomic Energy. The difference between the Soviet and the western approach to the control of atomic energy continued throughout the year. The matter was given a new complexion by the announcement from Washington on Sept. 23 that the western governments had evidence of a recent atomic explosion in the Soviet Union. Official Soviet comment on Sept. 25 was to the effect that much blasting work for peaceful purposes had recently been going on in Russia and that this might have attracted outside attention. On the other hand it was recalled that Vyacheslav Mikhailovich Molotov had declared as long ago as Nov. 6, 1947, that the atomic bomb was no longer a secret. Supporting the Soviet proposal before the Atomic Energy commission of the United Nations for simultaneous conventions on prohibition and control, Andrey Yanuarevich Vyshinsky declared in a speech on Nov. 10 that the Russians were using atomic energy not to stockpile bombs but for peaceful purposes, for razing mountains and irrigating deserts. This statement was received with some scepticism by foreign experts. The Soviet-licensed German press located the explosion at the Tingai Gates between the Urals and the Kazakh mountains.

Home Politics. The structure of Soviet government remained substantially intact, though a continuation was noticed of the previous tendency to merge into single ministries various specialized economic ministries that had been given independent existence as a part of the wartime production drive. The total number of ministries was thus reduced. More important seemed certain changes in personnel.

On March 4, Molotov was replaced as minister of foreign affairs by his deputy Vyshinsky whose own place was taken by Andrey A. Gromyko, the permanent Soviet delegate to the United Nations. On Aug. 15 Arkady Iosipovich Lavrentiev also became a deputy minister of foreign affairs after his withdrawal from the Belgrade embassy. At the same time as Molotov was replaced, the minister of foreign trade, Anastasy Ivanovich Mikoyan was also replaced by his deputy Mikhail N. Menshikov. Since both Molotov and Mikoyan remained deputy prime ministers and members of the Politburo, the political significance of the changes remained uncertain.

On the other hand, the dismissal on March 14 of Nikolay Alexeyevich Voznesensky from his post as chairman of the State Planning commission, from his deputy premiership and from the Politburo was thought to imply his disgrace. He was succeeded in his two administrative capacities by Maxim Zakharovich Saburov. On the same day it was announced that Ivan Goliakov was replaced as president of the Supreme Court by Anatoly Volin.

On March 24 Marshal Nikolay Alexandrovich Bulganin was replaced as minister of the armed forces by Marshal Alexandr Mikhailovich Vasilevsky whose place as first deputy minister was filled by Marshal Vasily Danilovich Sokolovsky. On June 14 Ivan Fedorovich Tevosian, minister of metallurgical industry, was replaced by Anatoly Kuzmin, being himself appointed deputy prime minister.

With this appointment the number of deputy prime ministers was raised to 13. They were: V. M. Molotov (first deputy prime minister), Andrey A. Andreyev, Marshal L. P. Beria (*q.v.*), Marshal N. A. Bulganin, Lazar M. Kaganovich, A. N. Kosyghin, Alexey Krutikov, Vyacheslav A. Malyshev, G. M. Malenkov (*q.v.*), A. I. Mikoyan, I. F. Tevosian, Marshal Klimenty E. Voroshilov and M. Z. Saburov.

After the dismissal of Voznesensky the 12 members of the Politburo were: Stalin, Andreyev, Beria, Bulganin,

Kaganovich, Nikolay S Khrushchev, Kosyghin, Malenkov, Mikoyan, Molotov, N. M. Shvernik and Voroshilov.

In view of the importance attached to outward signs of the order of precedence within the top Soviet hierarchy, some significance was attached to the choice of Gheorghi Maximilianovich Malenkov (*q v.*) to make the keynote speech in the Nov. 6 celebrations of the anniversary of the revolution. Slightly before this the possibility of a further shake-up in the government was suggested by an attack in *Pravda* on the editorial board of the Soviet trade union organ *Trud*, followed on Nov. 23 by a strongly worded attack on officials of the important Ministry of Labour Reserves for falsifying accounts in an attempt to give a false picture of success. The criticism of *Trud* was the more remarkable in that in April, the Soviet trade unions had held their 10th congress—the first for 17 years.

In the first quarter of 1949, there were numerous congresses of the Communist parties of the constituent republics of the U.S.S.R. and of local party organizations. These did little more than restate the current themes of Soviet propaganda but there was some suggestion that local nationalism was still regarded as a threat in both the Ukraine and Byelorussia. And later in the year there were reports of purges in the Communist parties of the Ukraine, Uzbekistan and Kazakhstan. Some internal divergences of opinion might also explain why the expected congress of the All-Union Communist party did not take place during the year although there was no evidence as to the nature of the disagreements in question. In April, the 11th Congress of the Young Communist league (Komsomol) was held and new rules for the organization were adopted, stress being laid on its responsibility for carrying out the decisions of the party and the government in the economic and cultural sphere.

Cultural Life. There was no abatement in 1949 of the Soviet claims that the Russians had been responsible for all the most important scientific achievements of the past and were also culturally the leading nation. Nor was there any slackening of pressure upon all forms of cultural activity to lend themselves wholeheartedly to the service of the regime and its economic social and political ends. Any tendency to look outside the U.S.S.R. for inspiration was branded as decadent "cosmopolitanism." In the spring the *Literaturnaya Gazeta* published a denunciation of a large number of literary critics for indulging in this heresy. It was noted that almost all of the persons denounced either had Jewish surnames or had their former Jewish names given in brackets. This was unprecedented in the Soviet press; and the anti-Semitic nature of the campaign was subsequently made clear in other ways. Foreign commentators were, however, prone to see in this less a cultural than a political manifestation, a fear lest Soviet Jews might, however mildly, feel inclined to seek some kind of contact with the new state of Israel and thus expose themselves to foreign contamination. The measures against Zionism in the satellite countries and the frictions between the Israeli government and some of the people's democracies were witness to the same thing. Soviet patriotism seemed not merely to demand total allegiance but to emphasize its Russian character, rather than the multinational facets so much in evidence before World War II. (M. Blf.)

Education. According to an article published in *Izvestia* (Dec 16, 1949) by Serghey Kaftanov, the Soviet minister of higher education, the U.S.S.R had in 1949 more than 220,000 elementary and secondary schools with a total of about 34 million pupils (in 1938 31,517,000; in 1914, within the 1921 frontiers, there were 5,155,600 pupils in elementary and 765,600 in secondary schools). As stated by Lavrenty P. Beria in *Pravda* (Dec. 21) 78,000 of these schools were outside the Russian S.F.S R , that is, teaching was given in other than the Russian language. There were about 3,500 secondary technical schools with 1,094,000 pupils (951,000 in 1938, 35,800 in 1914). There were also 31 universities and 806 other institutions of higher education or V.U Z. with 770,000 students (in 1938 there were 23 universities and 727 V U Z. with 602,900 students, in 1914 10 universities and 81 institutions of higher education with 112,000 students) Illiteracy. (1897 census,) 76%, (1939 census) 18 8%

Agriculture. After postwar annexations the total arable land of the U.S.S R extended to 422 million hectares, 371 million ha of which belonged to 246,000 collective farms or *kolkhozy* and 51 million ha to 4,540 state farms or *sovkhozy* The Soviet leaders described their agriculture as the largest mechanized agriculture in the world The first machine and tractor station (m t s) was organized in 1928, on March 10, 1939, Joseph Stalin announced that the Soviet Union possessed 6,350 m t s with 483,500 tractors, 153,500 harvester-combines and 130,800 complex and semi-complex threshers, on Jan 1, 1941, the number of m t s was 7,069 According to Soviet official figures the German invaders destroyed 98,000 collective and 2,890 state farms with 2,890 m t s By 1944 the total loss in agricultural machinery had reached about 40%, agricultural production fell in the same proportion and losses in livestock were even greater The Five-Year Plan for the Rehabilitation and Development of the National Economy of the U S S R announced on March 15, 1946, by Nikolay A Voznesensky, the then chairman of the State Planning commission, fixed rather modest targets for crop production and livestock for 1950

TABLE I—AGRICULTURAL PRODUCTION (million metric tons)

	1913*	1922	1930	1932	1938	1940	1945	1950 (Plan)
Grain†	80 1	50 3	83 6	69 9	90 0	119 0	80 0	127 0
Sugar Beet	10 9	1 5	14 0	6 6	16 7	21 8	—	26 0
Potatoes	23 3	—	47 5	—	65 6	84 2	—	115 3
Cotton	0 7	—	1 1	1 3	2 7	2 7	—	3 1

Source *Bolshaya Sovietskaya Entsiklopedia S S S R* (Moscow, 1948)
*Pre-World War I Russia in 1921 frontiers
†Bread grain and coarse grain together According to Soviet statistics in 1938, for example, 67% of all grain produced was bread grain (wheat 39 0, rye 24 5, buckwheat 1 1, millet 2 1 and rice 0 3)

The Soviet Union reached the pre-1914 agricultural production level only in 1930 and the subsequent decline was the result of the collectivization policy enforced by the decree of Feb 1, 1930 By 1938 total production was greater than before 1914, but not the output per head of the population this decreased from 667 kg to about 530 kg of grain Increases in 1940 resulted from annexations of territory having a higher degree of agricultural economy And the grain production target for 1950 meant exactly the same output per head of the population as in 1913 On Nov 6, 1949, Gheorghi M Malenkov stated that in 1948 the gross grain harvest had all but attained the level of 1940 and that the 1949 harvest had reached 122 5 million metric tons

TABLE II—LIVESTOCK (million head, July of each year)

	1916	1922	1929	1933	1938	1940	1945	1950 (Plan)
Horses	35 8	24 1	34 6	16 6	17 5	20 6	10 5	15 5
Cattle	60 6	45 8	67 1	38 4	63 2	71 0	47 0	65 3
Pigs	20 9	12 1	20 7	12 1	30 6	36 1	10 4	31 2
Sheep	113·0	84 3	133 3	50 2	102 5	108 5	69 4	121 5
Goats	8·2	6 8	13·5					

Source *Bolshaya Sovietskaya Entsiklopedia*

The targets for 1950 meant that the Soviet Union would possess about 34 head of cattle, 16 head of pigs and 64 head of sheep or goats per 100 inhabitants as against 50 head of cattle, 17 head of pigs and over 100 head of sheep or goats per 100 inhabitants of pre-1916 Russia At the beginning of 1949 it appeared that the development of animal husbandry under the five-year plan was not progressing satisfactorily. A new three-year plan published on April 19 slightly reduced the total targets for 1950 This plan is summarized in Table III

TABLE III—THREE-YEAR PLAN FOR LIVESTOCK
[Results aimed at for collective and state farms in million head]

	1949		1950		1951	
	C F	S F	C F	S F	C F	S F
Cattle	24 0	4 0	28 0	4 5	34 0	5 7
Pigs	10 0	3 4	13 0	4 0	18 0	5 6
Sheep and Goats	62 4	9 3	73 0	10 7	88 0	13 5
Poultry	65 0	—	120 0	—	200 0	—

Source Decree of U S S R Council of Ministers and Central Committee of the All-Union Communist Party (*Izvestia*, April 19, 1949)

These figures do not include the personal possessions of collective farmers, factory and office workers and individual peasant households These in April 1949 consisted of 30 million head of cattle, 7 2 million head of pigs, 26 5 million head of sheep and goats and 350 million poultry Incentives offered to collective farmers by the Soviet government were listed in a decree published on April 21, 1949 A collective farmer, for instance, would get the Order of Lenin for a sow producing in a year 22 pigs each weighing at least 15 kg at two months, a milkmaid would be proclaimed Heroine of Socialist Work for a cow having a yearly milk yield of 5,000 kg

Industry. Reporting on the five-year plan to the Supreme Soviet Voznesensky said on March 15, 1946, that the gross output of the entire Soviet industry for 1950 was fixed at 48% above the 1940 level. The Central Statistical board pointed out that in the fourth quarter of 1949 the average monthly output of gross industrial production exceeded the 1940 level by 53%. In assessing the index figures on the

fulfilment of Soviet plans it must always be borne in mind that they are reckoned on the value of goods produced and not on their quantity The target for 1950 was fixed at 205,000 million roubles calculated in 1926-27 prices The postwar five-year plan also fixed the weights to be produced in many industries and these are compared in Table IV with published production figures

TABLE IV —PRODUCTION OF FUEL, POWER AND BASIC RAW MATERIALS
(Million metric tons, electricity in '000 million kwh)

	1913*	1938*	1940*	1945†	1949†	1950 (Plan)
Coal	29 1	132 9	166 0	145 0	230 0	250 0
Crude oil	9 2	32 2	31 0	17 0	31 0	35 4
Electricity	1 9	39 6	48 3	40 0	70 0	82 0
Pig iron	4 2	14 7	15 0	10 5	15 0	19 4
Steel	4 2	18 0	18 3	13 5	20 1	25 4
Cement	1 5	5 7	5 8		–	10 5

*Bolshaya Sovietskaya Entsiklopedia †Estimates

In 1940 almost a half of all Soviet coal 81 million tons was extracted in the Donets basin (Donbas) In his book *Soviet Economy During the Second World War* (New York, 1949) Voznesensky said that by the end of 1945 the Donbas was producing 96,000 tons daily or about 35 million a year On Dec 28, 1949, A F Zasyadko, Soviet minister of the coal industry, reported to Stalin that in the fourth quarter of the year the average daily coal output in the U S S R had passed the 1950 target, while the coal output in the Donbas exceeded the 1940 level From a pledge given by the miners of the Soviet Union in a letter to Stalin on his 70th birthday it could be estimated that in 1949 the Donbas produced about 35% of the total coal output, the Kuzbas (Kuznetsk basin, western Siberia) 17%, Urals (including Vorkuta) 14%, Moscow basin 10%, Karaganda open-cast mines 7%, eastern Siberia 8%, far east 7% and central Asia 2%

The Central Statistical board stated that the output of crude oil in the fourth quarter of 1949 had passed the level set by the five-year plan for 1950. The output of oil in the Baku basin was decreasing before World War II, the total of 44 3 million tons fixed for 1937 (in the second five-year plan) was never reached and there was no hope of reaching the level of 48 5 million tons fixed for 1942 (in the third five-year plan) In 1940 Baku produced 27 3 million tons and the other basins (Maikop, Grozny, Emba, Tuymaza, Aktyubinsk, Ukhta) only 3 7 million, according to the postwar five-year plan, Baku was to produce 22 7 million tons in 1950 and the other basins (including the former Polish Borysław basin) 12 7 million tons An indirect sign of a petrol scarcity was the organization in the spring of 1949, at Korsun-Shevchenkovsky near Kiev, of the first machine and tractor station equipped with electrically driven tractors

Assuming that the 1949 steel output of the Soviet Union reached the level fixed for 1950, the *per capita* production between 1938 and 1949 would have increased only from 107 to 130 kg , compared with an increase during the same period from 226 to 314 kg produced per head of the population in the United Kingdom and from 216 to 547 kg in the United States

Little information was available as to production of other metals What was known or estimated is set out in Table V.

TABLE V. METAL PRODUCTION ('000 metric tons)

	1936*	1938*	1940*	1950†
Manganese ore	1,350	1,050	1,300	1,800
Chrome ore (Cr_2O_3 content)	90	90	96	310
Nickel ore (metal content)	2	2 5	8 7	25 5
Copper	83	83 7	107	224
Lead	50 8	69	75	195
Zinc	63 7	80	95	237
Aluminium	30	43 8	55	174
Tungsten ore (WO_3 content)	1 2	2 1	2 9	12 7
Tin	—	—	4 4	12 0

*Statistical Yearbook of the League of Nations (Geneva, 1945)
†The 1950 targets were calculated on the ratio of increase published in the five-year plan adopted by the Supreme Soviet of the U S S R on March 18, 1946

With emphasis on heavy industry the Soviet economy looked like a war economy, while the people were deprived of consumer goods to a considerable degree Table VI gives, for instance, the actual production of cotton and woollen fabrics and leather footwear in 1937 compared with amounts fixed for 1942 and 1950 by the third and the postwar five-year plans

TABLE VI —TEXTILES AND SHOES

	Output 1937	Plan 1942	Plan 1950
Cotton fabrics (million m)	3,442	4,900	4,686
Woollen fabrics (million m)	105	177	159
Leather footwear (million pairs)	164	258	240

These figures show that there was no prospect of any rapid improvement in conditions The targets for 1950 meant about 1 sq. yd. of woollen fabric per inhabitant (compared with 4.5 sq. yd. in Great Britain in 1948) and four pairs of leather shoes per five inhabitants (as against over two pairs per head supplied in 1948 in Great Britain for the home civilian market and almost three pairs in the U.S).

Housing remained the acutest problem in Soviet economy Between 1923 and 1939 living-space in towns decreased from 6 4 sq m per head to 4 sq m Voznesensky stated in his book that out of 2,567,000 dwelling-houses in German-occupied towns, 1,209,000 were destroyed or damaged, and that to restore prewar conditions it would be necessary to build more than 60 million sq m of housing floor-space in the war-damaged areas alone The five-year plan provided for building or repairing a total of 84 4 million sq m of living-space, including only 33 2 million sq m allocated to war-damaged areas According to the Central Statistical board, by the end of 1949 a total of 72 million sq m of living-space had been built or restored

The postwar five-year plan stipulated that by 1950 about 5,900 state industrial plants, including 3,200 in war-ravaged areas, should be built or restored According to a speech by Malenkov on Nov 6, 4,600 enterprises were put into operation by Oct 1949 The total number of state-owned industrial plants, not counting co-operative and other small plants, was estimated in 1940 at 8,400 and at the end of 1949 at 9,800 According to the Central Statistical board the total number of workers employed in the Soviet economy increased by 1 8 million during 1949 thus passing the prewar level by 15% As in 1940 the number of workers employed was 30 4 million the 1949 figure was therefore 34 9 million In 1940 about 37% were employed in industry, 10% in transport, 9% in agriculture, 7% in building, etc

Izvestia asserted on Dec 15, 1949, that 58% of all workers were Stakhanovites, that is, that they were taking part in "Socialist emulation" Pay for piece-work was the basic form of wage and, as the Soviet *Entsiklopedia* commented, this wage permitted the checking of the workers' performance and stimulated working intensity. Instead of protecting workers against employers the Soviet *profsoyuz* (trade union) was an instrument of state coercion

Regarding working hours in the Soviet Union B L Markus in the supplementary volume of the *Bolshaya Sovietskaya Entsiklopedia* stated "In the Soviet country an 8-hour day was introduced in the first days of the great October socialist revolution In the years of the first five-year plan this was changed to a 6-day week of 7-hour days in Soviet industry In 1940, in view of the threat of war, the workers, on the initiative of their *profsoyuz*, passed to a 7-day week of 8-hour days The needs of war compelled the temporary introduction during hostilities of mass urgent undertakings necessary for the front The end of war brought about a change in the nature of urgent works required. Nevertheless, the tasks involved in healing of the wounds of war and the necessity for further rapid development of the national economy make it essential to retain the 8-hour day."

The Soviet worker could have no recourse to strikes and absenteeism was considered sabotage In addition workers were disciplined by the knowledge that there were camps of forced labour, the so-called *lagry*, involving "more than 10 million people" (according to G T. Corley Smith, chief British delegate to the U N. Economic and Social council) or "between 8 and 14 million" (according to Willard L Thorp, the U S assistant secretary of state)

Foreign Trade. A I Mikoyan, former minister of foreign trade, stated in *Pravda* on Dec 21 that the volume of foreign trade in 1949 was more than double that of prewar He added that trade with the "capitalist countries" had decreased and amounted to only one-third of the total, on the other hand, trade with people's democracies had grown on a scale hitherto unprecedented and amounted to two-thirds of the total Table VII gives figures of four typical years with pre-1914 averages as a measure of comparison

TABLE VII —SOVIET FOREIGN TRADE (million roubles)

	1909-13	1921	1924	1930	1938
Export	6,514	89	1,476	4,539	1,332
Import	4,994	923	1,139	4,637	1,423

Source I Zhlobin in *The Finances of the U S S R in the Years 1917-1947* (Moscow, 1947) The average for 1909-13 and the figures for 1921 and 1924 in 1913 roubles, figures for 1930 and 1938 in current roubles

In regard to weight 1931 was the peak of Soviet foreign trade, exports amounting then to 21 7 million metric tons and imports to 3 6 million tons Thenceforward both volumes slowly decreased to reach 9·7 million tons in exports and 1 1 million tons in imports in 1938 Before World War II trade was practically negligible between the Soviet Union and the countries from 1945 styled people's democracies, most being with Czechoslovakia but, taking an average for 1936-38, the value amounted to only 1 6% of Czechoslovak exports and 1 2% of imports.

Foreign trade, a state monopoly, was an integral part of the Soviet policy of industrialization The U S S R imported mainly machinery, electrical equipment, wool, cotton and rubber and to pay for its imports exported timber, oil, furs, coarse grain, flax, etc. Before World War II the U S was the principal supplier, the U.S , the U K , France and eight other western European countries together supplied two-thirds of Soviet imports in 1938 and took an equal amount of Soviet exports. If the position differed after 1945, and especially since the enactment of the E R.P , the reason was that on the one hand the eastern European satellite countries were being exploited economically by the Soviet Union and, on the other, the western world was unwilling to help the rearmament policy of an unfriendly power.

Transport and Communications. During the period 1920-40 the total length of Soviet railways increased from 58,500 km. to 105,300 km. During World War II the operated length was reduced by 40% (1943), the losses of locomotives amounting to 15,800 (15% of the total) and of goods wagons to 428,000 (20%). Among the new railway lines built before World War II the Turksib completed in 1930 linked the Trans-Siberian railway from Novosibirsk with the Turkestan railway system. Construction was begun of a new railway across eastern Siberia which branched off the main line at Taishet, east of Krasnoyarsk, and passed north of Lake Baikal, the sections Taishet-Kirensk and Chekunda-Komsomolsk-Sovietskaya Gavan (on the Sea of Japan) were completed by 1945. It is believed that by 1950 the Kirensk-Chekunda link would be completed. By 1949 the Trans-Siberian railway was double-tracked throughout its length and a South-Siberian or Youzhsib line, branching off from the Trans-Siberian at Kinel (east of Kuibyshev), linked the steel works of Magnitogorsk with the coal basin of Karaganda. The line was extended farther east from Akmolinsk to Barnaul (where it crossed the Turksib), and continued eastwards to Stalinsk, in the Kuzbas (already linked to the Trans-Siberian via the new industrial town of Kemerovo). From Stalinsk the line was being extended to Abakan, source of supply in iron ore and manganese for the Kuzbas steel works, and was expected to join the Trans-Siberian at Taishet by 1950. Another line, opened in 1942, ran from Kotlas to Vorkuta, a new coal basin 70 mi. N. of the Arctic circle.

In 1940 the railways transported 415,000 million tons-km., a figure which may be compared with 548,029 million tons-km. of the U.S. in the same year (but an area only 37% of that of the U.S.S.R.) According to the five-year plan, the total transport capacity was to reach 657,500 million tons-km. by 1950, including 532,000 million tons-km. by rail (in 1944 the U.S. railway goods traffic reached 1,081,237 million tons-km.), 49,000 million tons-km. by inland waterways, 51,000 million tons-km. by sea and 25,500 million tons-km. by road. The report of the Central Statistical board stated that in 1949 the freight turnover on Soviet railways was in excess of the 1940 level.

By 1949 there were only 11,500 km. of all-weather highways for motor traffic, that is, slightly more than in Belgium. Here again enormous distances, climate and the general backwardness of the country explained the situation. In a report on the state of roads published in *Izvestia* on May 31, 1949, S. P. Pchelnakov, head of the board of communications of the Russian S.F.S.R., stated that there were as yet few surface roads. In autumn and spring many of the highways were little suited for motor traffic. These conditions, he pointed out, constituted a severe brake on the economic and cultural development of the country. In 1948 the number of motor vehicles was estimated at 760,000 (8,800 in 1913; 19,000 in 1929). The actual production figure was 144,000 in 1940 and was expected to reach 500,000 by 1950.

Shipping with 1,299,300 gross tons in 1948 occupied the ninth place in the world and represented 1·8% of world tonnage (in 1914 the Russian merchant marine totalled 1,770,000 gross tons). The greatest handicaps of the Soviet Union as a sea power were climate and the necessity for four separate navies (Arctic ocean, Baltic and Black seas and Pacific ocean).

By 1949 the total length of operated lines of the Soviet Union's extensive air transport system was about 175,000 km., the main line linking Moscow-Sverdlovsk-Novosibirsk-Irkutsk-Khabarovsk-Vladivostok with branches Sverdlovsk-Magnitogorsk, Novosibirsk-Kemerovo, Irkutsk-Yakutsk and Khabarovsk-Komsomolsk-Sakhalin. Other lines linked Moscow with Tashkent, Baku, Tbilisi, Simferopol and all the satellite countries of eastern Europe. Aircraft employed were two-engined IL-12 and four-engined IL-18, similar in design to the U.S.-built DC-3 and DC-4 respectively; from 1949 the TU-70, a four-engined aircraft, was also in service. The number of passengers transported in 1948 by the G.V.F. (Grazhdansky Vozdushny Flot or Citizens' Air Fleet) was estimated at 2 million (300,000 in 1938).

Finance and Banking. The constant expansion of the Soviet budgets was not wholly accountable to the progress of industrialization; there was also inflation which caused a continuous depreciation in the purchasing power of the rouble. Three-quarters of the revenue were constituted by a turnover tax, that is, a levy on the proceeds of retail trade of all commodities. The expenditure included financing of the national industry, transport and agriculture.

TABLE VIII.—THE SOVIET BUDGETS ('000 million roubles)

	1928*	1933*	1938*	1940*	1946*	1947†	1948†	1949†
Revenue	8·8	46·4	127·5	180·2	322·7	394·2	428·4	446·0
Expenditure	8·7	42·1	124·0	174·4	304·1	374·1	368·8	415·4

*Actual, *The Finances of the U.S.S.R.* †Estimates

The only available information as to currency circulation in the Soviet Union disclosed that between Jan. 1, 1929 and Jan. 1, 1937, it had increased from Rb.2,028 million to Rb.11,256 million. The circulation was relatively small because the currency passed simply and quickly from the state to the people in return for work performed and from the people to the state for goods and services supplied. In the four war years (1942-45), when goods were scarce, Soviet war expenditure alone amounted to a total of Rb.499,300 million. Voznesensky said in his book that by 1947 currency circulation had increased to two-and-a-half times the 1940 figure. This inflation was drastically arrested by a decree of Dec. 14, 1947, when for 10 roubles of the old currency one new was given in exchange for cash in hand. On Dec. 31, 1949, the official Moscow exchange rates were as follows. £1=Rb 14 84; U.S. $1=Rb.5 30. Taking into account the purchasing power of the rouble, the exchange rate would be around Rb.105 to the pound sterling.

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UNITARIAN CHURCH. The year 1949 marked for British Unitarians the beginning of the rebuilding of churches destroyed by enemy action. The Brixton congregation erected an excellent temporary building, Ilford restored and refurnished their church, and St. Helens approved plans and obtained a licence for a new permanent building in place of the corrugated iron chapel destroyed in World War II. The cause at Marple, Cheshire, was revived after an interval of 30 years and was already well established by the end of the year. The Unity churches at Macclesfield and Stockport were admitted to full membership of the assembly. A further sign of progress was the entry into the ministry of the largest number of students from the colleges since 1939.

Dr. Mortimer Rowe retired after 20 years as secretary of the assembly and was made an honorary life member. He was succeeded by the Rev. John Kielty who acted as secretary of the commission on the Work of the Churches and of the £100,000 appeal fund. An annual Youth Sunday was instituted for the first Sunday in March. The Rev. E. W. Kuebler, director of education in the American Unitarian association, made a very successful month's tour of the schools and youth groups. The number of one-day schools for teachers and youth leaders was much larger than in 1948, and statistics showed an increase of scholars and teachers in the Sunday schools.

The 13th world congress of the International Association for Religious Freedom was held in Amsterdam and was attended by religious liberals from America and many European countries. The British party numbered over 40. An excellent congress was followed by a camp conference of the International Religious fellowship, the youth counterpart to the I.A.R.F., at Soesterburg, also in the Netherlands. From both gatherings several broadcasts went out on the liberal broadcasting station at Hilversum. (J. KY.)

United States. An important gathering was the conference of the American Unitarian association in Portland, Oregon, in August. The programme centred around "The Challenge of the New Day" and the Unitarian answer derived from the twofold faith in the divinely creative potential in man and in what man can be. Practical programmes for Unitarian efforts resulted, and action was taken looking toward union with the Universalist Church. Commissions set up by both denominations submitted a joint resolution "concerning the association of self-governing congregations wishing to enlist in the extension of organized religion on the basis of local autonomy in matters of government and religious belief." If by June 1, 1950, 50% of the parish churches had voted affirmatively for union, the commissions would proceed with a specified plan. A still wider fellowship of churches based upon freedom of faith and congregational polity was foreseen as a result of the union of the two denominations.

A report submitted by the Interdenominational committee of the American Unitarian association, the Universalist Church of America and the American Ethical Union proposed a common action project. It recommended that this

first project should be concerned with the problems of mental health on the three levels of education and survey, remedial action and application of principles of mental health to church life. The project was adopted for the following biennium. (*See* also CHURCH MEMBERSHIP.) (J. H. L.)

UNITED CHURCH OF CANADA. The United Church of Canada which in 1925 united with the Presbyterian Church in Canada, the Methodist Church (Canada) and the Congregational Churches in Canada, reported for 1948 a membership of 791,677 with 1,861,683 persons under pastoral oversight, a Sunday school enrolment of 503,251 and 6,494 preaching places. The church owned property worth about $114,498,936 and raised a total of $20,672,466 for all purposes. The missionary and maintenance givings of the church in 1948 totalled $2,529,370, an increase of $402,848 over 1947.

Among the important features in the life of the United Church during 1949 were the reception of 28,367 persons into membership on profession of faith, 58% of whom were adults, as a result of visitation evangelism undertaken largely by laymen; a vigorous campaign to secure recruits for the ministry; and the sending of more than $74,000 for relief to churches in Europe and in Asia.

The church was saddened by the loss of two former moderators: the Very Rev. Aubrey S. Tuttle, who was moderator from 1940 to 1942 and who gave distinguished leadership in the field of higher education; and the Very Rev. J. R. P. Sclater, who had been taking a prominent lead in seeking ultimately to bring about organic union with the Church of England in Canada. Dr. Sclater was moderator from 1942 to 1944. (G. A. SI.)

UNITED KINGDOM: *see* GREAT BRITAIN AND NORTHERN IRELAND, UNITED KINGDOM OF.

UNITED NATIONS. During its fourth year, the United Nations continued to be handicapped by the lack of co-operation between the Soviet Union and the Western Powers. In addition to preventing the conclusion of treaties of peace with Germany, Austria and Japan, this circumstance prevented the Security council from functioning as the organ primarily responsible for the maintenance of international peace and security as the charter had anticipated. In addition, it slowed down and in some respects obstructed the work of other U.N. organs. Secretary general, Trygve Lie (*q.v.*).

Membership. Membership was increased during the year to 59 by the admission of Israel. At the close of 1949 membership was as follows:

Afghanistan	Czechoslovakia	Iraq	Philippines
Argentina	Denmark	Israel	Poland
Australia	Dominican Republic	Lebanon	Sweden
Belgium	Ecuador	Liberia	Syria
Bolivia	Egypt	Luxembourg	Thailand
Brazil	El Salvador	Mexico	Turkey
Burma	Ethiopia	Netherlands	Ukrainian S.S R.
Byelorussian S.S R.	France	New Zealand	Union of South Africa
Canada	Greece	Nicaragua	U.S.S.R.
Chile	Guatemala	Norway	United Kingdom
China	Haiti	Pakistan	United States
Colombia	Honduras	Panama	Uruguay
Costa Rica	Iceland	Paraguay	Venezuela
Cuba	India	Persia	Yemen
		Peru	Yugoslavia

New applications were received from the Republic of Korea (South Korea), Nepal and the Democratic People's Republic of Korea (North Korea). Favourable action by the Security council on the first two was prevented by the negative vote of the Soviet Union. The council refused to approve a Soviet proposal to refer the application of the Democratic People's Republic of Korea to its committee on the admission of new members. The Security council reconsidered the 12 applications which had previously failed to gain approval (Albania, Austria, Bulgaria, Ceylon, Finland, Hungary, Ireland, Italy, Jordan, Mongolia, Portugal and Rumania) but was unable to reach an affirmative decision on any of them. A Soviet proposal to approve all 12 applications plus that of Nepal en bloc was defeated.

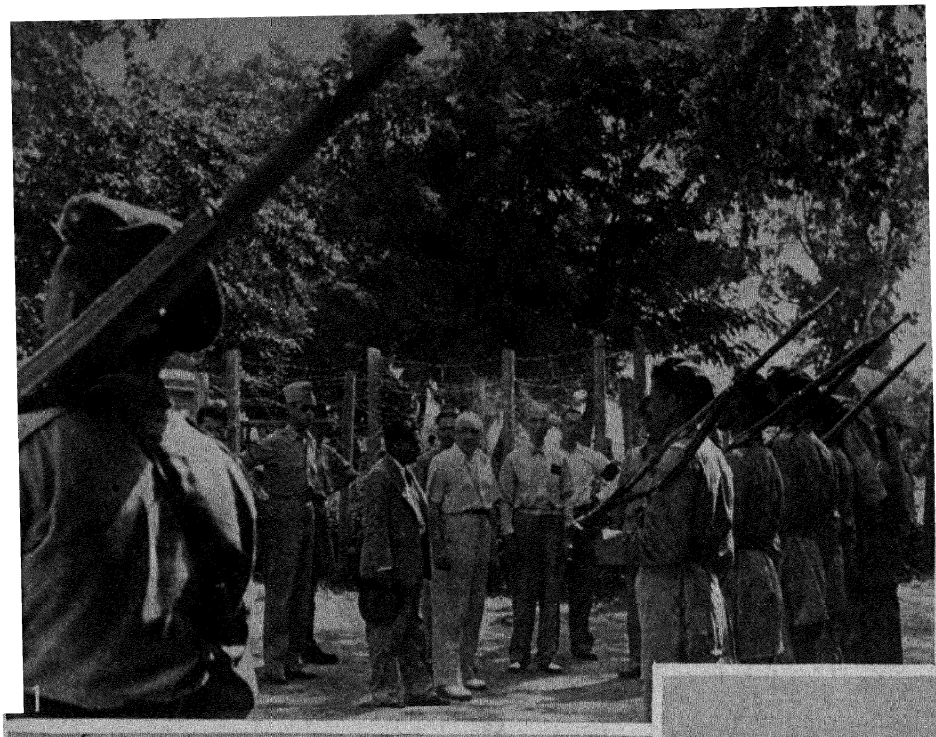
During the fourth session, the general assembly decided to request the International Court of Justice to give an advisory opinion on whether a state could become a member of the United Nations by vote of the general assembly without a favourable recommendation by the Security council.

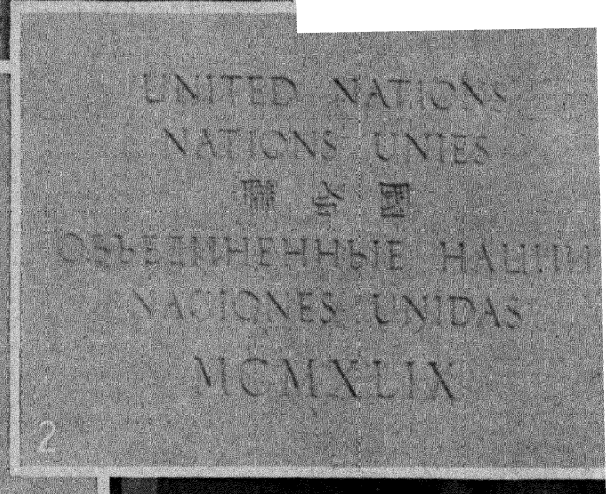
The Principal Organs. The general assembly met twice during 1949. Because of failure to dispose in Paris of the items appearing on the agenda of its third session, a second part of the third session was held at Lake Success, New York, from April 5 to May 18 with Herbert V. Evatt (*q.v.*), Australia, continuing to serve as president. The fourth regular session of the general assembly met at Lake Success from Sept. 20 to Dec. 10. Carlos P. Romulo (*q.v.*), Republic of the Philippines, was elected president. The general assembly disposed of an agenda of 68 items, including many of pressing political, economic and social importance. It adopted the recommendations of a special committee for improving its methods of work and rules of procedure. It voted the continuation of the United Nations Special Committee on the Balkans, the United Nations Commission on Korea and the Interim committee as subsidiary organs.

Though the charter requires that the Security council be so organized as to be able to function continuously, and the provisional rules provide that the interval between meetings may not exceed 14 days, the failure of the permanent members to agree on questions brought before the council, and the consequent tendency to appeal to the general assembly when possible, resulted in a decrease in council activity. During 1949 the Security council was composed of China, France, the Soviet Union, the United Kingdom and the United States (permanent members) and Argentina, Canada, Cuba, Egypt, Norway and the Ukraine (non-permanent members). During its fourth session, the general assembly elected Ecuador, India and Yugoslavia for two-year terms beginning Jan. 1, 1950, to succeed Argentina, Canada and the Ukraine. The election of Yugoslavia was bitterly opposed by the Soviet Union, who favoured the election of Czechoslovakia.

The Economic and Social council held two sessions during 1949, its eighth at Lake Success from Feb. 7 to March 18, when James Thorn (New Zealand) was elected president, and its ninth at Geneva from July 5 to August 15. During 1949 the council was composed as follows: with terms ending Dec. 31, 1949—Byelorussia, Lebanon, New Zealand, Turkey, United States and Venezuela; with terms ending Dec. 31, 1950—Australia, Brazil, Denmark, Poland, the Soviet Union and the United States; and with terms expiring Dec. 31, 1951—Belgium, Chile, China, France, India and Peru. During its fourth session the general assembly elected the following to membership for three-year terms beginning Jan. 1, 1950: Canada, Czechoslovakia, Mexico, Iran, Pakistan and the United States.

The Trusteeship council also held two sessions during 1949, its fourth and fifth, both at Lake Success. The fourth session was held from Jan. 24 to March 25 with Liu Chieh (China) serving as president. The fifth session was held from June 15 to July 22 with Roger Garreau (France) as president. The membership of the council during 1949 was as follows: members administering trust territories—Australia, Belgium, France, New Zealand, United Kingdom and United States; members by virtue of permanent seats on the Security council—China and the Soviet Union; and members elected by the general assembly—Iraq and Mexico for three-year terms ending Dec. 31, 1949, and Costa Rica and the Republic









THE UNITED NATIONS AT WORK IN 1949.

The Kashmir commission (1) at Gobindpur during a tour of Azad Kashmir territory. On Oct. 24 President Harry S. Truman laid the corner stone (2) of the headquarters building in New York, and (3) Moshe Sharett is seen holding the flag of Israel on May 12 after his country had been admitted as the 59th member the previous day. The Food and Agriculture organization, a specialized agency, conducted research into the eradication of rinderpest; an F.A.O. technician (4) is seen producing rinderpest vaccine by growing the virus inside hen's eggs.

of the Philippines for three-year terms ending Dec. 31, 1950. On Oct. 20, the general assembly elected Argentina and Iraq for three-year terms beginning Jan. 1, 1950, and also elected the Dominican Republic to serve the unexpired term of Costa Rica which had resigned.

Maintenance of International Peace and Security. The work of the United Nations in this field was handicapped by the state of relations between the Soviet Union and the Western Powers. Some notable achievements, however, were registered. Though the India-Pakistan question remained deadlocked and tension continued to exist in the Balkans, the U.N. could claim partial credit, at least, for the Indonesian settlement, and its intervention in Palestine had achieved the end of hostilities though the political dispute still remained unsettled.

The India-Pakistan question remained before the Security council for the whole year without any final settlement being reached. The United Nations Commission for India and Pakistan reported to the Security council at the end of the year that it had failed to end the dispute and suggested to the Security council that it be disbanded and that authority be vested in one person in an attempt to end the deadlock (*See* INDIA, DOMINION OF; PAKISTAN, DOMINION OF.)

The U.N. continued to deal with the Communist rebellion in Greece. The U.N. Special Committee on the Balkans (U.N.S.C.O.B.) in a report to the general assembly covering the period from Oct. 1948 to July 1949, stated that Albania, Bulgaria and Yugoslavia had refused to recognize the committee, that Albania and Bulgaria had continued to give moral and material assistance to the Greek guerrilla movement, that aid from Yugoslavia which had been on a large scale early in the year was diminishing, and that the present situation constituted a threat to the political independence and territorial integrity of Greece and to peace in the Balkans. The committee submitted a supplementary report to the assembly on Sept. 16. The committee asked the assembly again to call on Albania and Bulgaria to cease giving aid to the Greek guerrillas and to find Albania primarily responsible for the threat to the peace in the Balkans. The assembly adopted a resolution asking members to impose a complete arms embargo against Albania and Bulgaria as long as the two countries continued to give aid to the Greek guerrillas. (*See* also GREECE.)

The Indonesian situation, at the stage of armed conflict between Netherlands and Indonesian forces at the beginning of 1949, seemed satisfactorily resolved by the end of the year. On Aug. 23 meetings began at The Hague to effect a transfer of sovereignty from the Netherlands to the Indonesian republic. These meetings took the form of negotiations between the two countries and were not held directly under U.N. auspices. The round table discussions proved successful and on Nov. 2 agreements were signed providing for the transfer of sovereignty over Indonesia to the republic of the United States of Indonesia by Dec. 30, 1949. The general assembly adopted a resolution approving the agreement. On Dec. 27, the Netherlands transferred full sovereignty over Indonesia to the republic of the United States of Indonesia. (*See* also NETHERLANDS OVERSEAS TERRITORIES.)

The Korean situation remained substantially unimproved throughout 1949. The U.N. Commission on Korea, established by the general assembly to replace the Temporary Commission on Korea, held its first open meeting in Seoul on Feb. 12, 1949. A commission report adopted on July 28 set forth five main conclusions: (1) that propaganda and hostile activity between the two parts of Korea made unification remote; (2) that opposition of the Soviet Union to the commission and its objectives made a substantial degree of unification impossible; (3) that the differences between the Soviet Union and the United States remained one of the underlying factors in preventing unification, (4) that the Korean government should be allowed a broader political base; and (5) that the situation in Korea had not improved and that the commission had been unable to facilitate reaching the objectives of the general assembly. The general assembly on Oct. 21 voted to continue the U.N. Commission on Korea in being, rejecting a proposal by the Soviet Union to terminate the commission. The assembly widened the competence of the commission, giving it explicit instructions to be on guard against the outbreak of civil war in Korea. (*See* also KOREA.)

The Palestine situation remained one of continuous concern throughout the year. Primarily through the efforts of acting mediator Ralph J. Bunche, armistice agreements between Arabs and Jews were concluded early in the year. On Jan. 6 a cease-fire agreement between Israel and Egypt was signed, followed on Feb. 24 by an armistice agreement such as the Security council had requested in its resolutions of Nov 4 and 16, 1948. On March 11 a cease-fire agreement between Israel and Jordan was signed Armistice agreements between Lebanon and Israel and between Jordan and Israel were signed on March 23 and April 3, respectively. Negotiations between Israel and Syria began on April 5 and culminated in agreement on July 20, thus bringing hostilities in Palestine to an end Bunche's final report was taken up by the Security council on Aug. 4 On Aug. 11 the council adopted a resolution declaring that the one-year truce had been superseded by the armistice agreements, relieving the acting mediator of further responsibility, re-affirming its unconditional cease-fire order and providing a nucleus of observer personnel.

The Palestine Conciliation commission, established by the general assembly on Dec. 11, 1948, met at Geneva on Jan. 17, 1949, and established formal headquarters in Jerusalem on Jan. 24. The commission began discussions with Israel and the Arab countries in February. The commission later invited all the governments and delegations to Lausanne. This invitation was accepted, and the first meeting was held on April 27. It soon became obvious that deep-seated differences existed. The Israeli government was pressing for territorial negotiations, while the Arab governments insisted that negotiations regarding refugees should come first. The commission eventually set up an Economic Survey mission to aid the governments in overcoming economic dislocations. After six months' study of the problem, the conciliation commission transmitted its recommendations to the general assembly on Sept. 1. These recommendations provided for the division of Jerusalem into a Jewish and an Arab zone, with specified functions performed by an international regime consisting of a U.N. commissioner, a general council, an international tribunal and a mixed tribunal. Jerusalem was to be permanently demilitarized and neutralized. The general assembly, however, refused to accept this recommendation, returning to the plan contained in its resolution of Nov. 29, 1947. In a resolution of Dec. 10, the assembly re-affirmed the two principles that the city of Jerusalem should be established as a separate body under an international regime and that the Trusteeship council should be designated as administering authority. The resolution requested the Trusteeship council to complete the preparation of the statute. Both Israel and Jordan, the two states in actual occupation of the city, announced their unalterable opposition to the plan. (*See* also ISRAEL; JERUSALEM; JORDAN.)

With respect to the questions of the international control of atomic energy and the limitation and reduction of conventional armaments, the stalemate existing at the close of 1948 continued throughout 1949. The Atomic Energy commission held six meetings between Feb. 18 and May 25 and then decided to refer the general assembly resolution of

Nov. 1948 to its working committee for further consideration. The working committee decided that there was no useful purpose in continuing discussions and that its work should be suspended until the six permanent members had found a basis for agreement. On Aug. 9 the six permanent members of the commission began a series of meetings which failed to produce agreement. The general assembly later asked that these meetings continue, and in its resolution it again endorsed the majority control plan. (*See* also ATOMIC ENERGY.)

The Soviet Union introduced a proposal in the Security council in February that the Commission for Conventional Armaments elaborate a plan for the reduction by one-third of the armaments and armed forces of the permanent members of the Security council by June 1, 1949. The U.S. representative asked that the general assembly's resolution of 1948 be referred to the commission for action. The soviet resolution was rejected, and the U.S. proposal accepted. The French delegate to the working committee of the commission introduced a working paper on May 26 which contained proposals and recommendations for the census and verification of conventional armaments and armed forces. The working committee adopted the proposal on July 18, and on Aug. 1 the commission adopted the plan. A French proposal in the Security council that the commission's plan be accepted was defeated by the negative vote of the Soviet Union. Full information on the action taken was sent to the general assembly. The general assembly approved the commission's recommendations and requested the Security council to continue its study of the problem through the commission.

Development of International Law. Under article 23 of the charter, the general assembly is made responsible for the development of international law. The International Law commission, established by resolution of the general assembly of Dec. 1946 to assist in this work, met for the first time in 1949. It was in session at Lake Success from April 12 to June 9. The commission prepared and adopted a Draft Declaration on the Rights and Duties of States; it adopted a procedure for the further study of the principles of international law recognized in the charter; it gave preliminary consideration to the establishment of an international criminal court; and it provisionally selected certain topics for codification, giving priority to the law of treaties, arbitral procedure and the regime of the high seas. The general assembly, after receiving the commission's report, adopted resolutions urging the commission to include the regime of territorial waters in its list of priority subjects for codification and to transmit to members for comment the Draft Declaration on the Rights and Duties of States.

The development of international law was also advanced by the adoption by the general assembly of rules governing the calling of international conferences by the Economic and Social council, by the work of the general assembly, the Economic and Social council and its commissions and the secretariat in preparing draft agreements on various topics for submission to members and by the increased frequency of use of the International Court of Justice, either for advisory opinions or judgments. (For further details, *see* INTERNATIONAL LAW.)

Economic and Social Co-operation. The most significant achievement of the U.N. during 1949 in the economic field was the adoption of a comprehensive plan for technical assistance to underdeveloped areas along the lines of President Harry S. Truman's Point Four programme. During its eighth session the Economic and Social council adopted a resolution requesting the secretary general to prepare for the ninth session of the council a comprehensive programme of U.N. technical assistance. Accordingly the secretary general, in co-operation with the chief administrative officers of the specialized agencies, submitted a report on measures already devised to promote economic development in underdeveloped areas. There was also submitted a report, the result of co-operative action by the secretariats of the United Nations and eight specialized agencies, on an expanded programme of technical assistance. The report outlined the administrative organization of such a programme and estimated the expense of the first two years at $35·8 million and $50 million respectively. The objectives of the programme were set forth to include the achievement by underdeveloped countries of the material and social benefits of a sound, balanced economic development. During its ninth session the Economic and Social council approved a programme substantially along the lines of the secretary general's report, except that a smaller initial expenditure was envisaged. The council's recommendations were adopted by the general assembly in its fourth session. As finally approved, the plan provided for the calling of a technical assistance conference for the purpose of negotiating contributions to the expanded programme. It authorized the secretary-general to set up a special account for technical assistance to which governments were invited to contribute. It provided for the administration of the programme by a technical assistance board composed of the executive heads of the United Nations and the participating specialized agencies, operating under the general direction of a standing technical assistance committee of the Economic and Social council. The plan provided for the distribution of funds initially available and laid down basic principles to govern the administration of technical aid.

Specialized Agencies. The following specialized agencies were in operation or in progress of formation in 1949:

International Labour Organization. (I.L.O.). *See* separate article.

Food and Agriculture Organization (F.A.O.). *See* FOOD SUPPLY OF THE WORLD.

International Monetary Fund. See separate article.

International Bank for Reconstruction and Development. See separate article.

International Civil Aviation Organization (I.C.A.O.). *See* AVIATION, CIVIL.

International Refugee Organization (I.R.O.). *See* REFUGEES.

International Trade Organization (I.T.O.). *See* TARIFFS.

United Nations Educational, Scientific and Cultural Organization (U.N.E.S.C.O.). The fourth general conference was held in Paris, Sept. 19 to Oct. 5. In preparing the programme for 1950 three criteria were followed: practical value for the betterment of the masses; the possibility of associating prominent intellectual and professional workers with the organization; and the possibility of obtaining rapid results. The work of the organization during 1949 included educational and scientific aid to states that suffered during the war, educational aid to refugees, fundamental education projects, seminars, technical assistance to underdeveloped areas, cultural co-operative programmes and the development of the use of mass media.

World Health Organization (W.H.O.). The second World Health assembly met in Rome from June 13 to July 2. It approved a regular budget of $7,873,000 and a supplementary budget of $9,152,250 to be raised on a voluntary basis. The programme adopted by the assembly provided for the expansion and intensification of the activities of the organization, acting both independently and in co-operation with other international bodies. It gave special attention to possibilities of technical assistance to underdeveloped areas. In line with the organization's policy of regionalism, regional meetings were held at New Delhi, Geneva, and Lima, Peru, so that delegates of southeast Asia, of the eastern Mediterranean and of the Americas could discuss health problems



The officers of the fourth general assembly, Sept.-Dec. 1949. Seated is Carlos Romulo, Philippines (president of the assembly) and standing are the chairmen of the committees. Left to right, Lester B. Pearson, Canada (Political), Herman Santa Cruz, Chile (Economic and Financial), Carlos Eduardo Stolk, Venezuela (Social, Humanitarian and Cultural), Hermod Lunnung, Denmark (Trusteeship), Alexis Kyrou, Greece (Administrative and Budgetary), and Manfred Lachs, Poland (Legal).

of their particular regions. Among the programmes initiated in 1949 were: the survey of ways and means to deal with tuberculosis in ten eastern Mediterranean countries as well as in South America; long-term malaria control in India, Pakistan and Persia; and the promotion of penicillin output in eastern Europe. Practical services included: the sending of a venereal disease control demonstration team to India; medical services for the Arab refugees; supplies for Afghanistan to control a typhus outbreak; iron lungs for Bombay to relieve a poliomyelitis epidemic; and aid to Ecuador following a disastrous earthquake.

International Telecommunications Union (I.T.U.). Carrying out the decisions of its plenipotentiary conference at Atlantic City, New Jersey, in 1947, the International Telecommunication union during 1949 adapted its permanent organs to the structure decided upon at the conference and undertook through various means to bring some order into the use of radio frequencies.

Universal Postal Union (U.P.U.). The Executive and Liaison committee held its 1949 session at Berne from May 16 to May 25. F. Hess (Switzerland) was elected director to succeed Alois Muri on Jan. 1, 1950.

World Meteorological Organization (W.M.O.). The United States instrument of ratification of the convention establishing W.M.O. was deposited on May 4, 1949. The 30 ratifications required for the convention to enter into force had not been obtained by the end of the year.

Non-Self-Governing Territories and Trusteeship Matters. The fate of the Italian colonies was settled by the general assembly during 1949. During the second part of the third session, the general assembly attempted to find a solution, but without success. In the fourth session the recommendations of the First committee were adopted without change on Nov. 21. These recommendations called for the complete independence of Libya not later than Jan. 1, 1952, placed Italian Somaliland under trusteeship for ten years with Italy as the administering power and set up a commission to determine the wishes of the inhabitants of Eritrea and to report not later than June 1950. The assembly later approved Adrian Pelt, assistant secretary general for conferences and general services, as the U.N. commissioner to administer Libya until it should become independent on Jan. 1, 1952. On Dec. 9 the Trusteeship council established a special committee to draw up a trusteeship agreement for Italian Somaliland. (*See* also ITALIAN COLONIAL EMPIRE.)

The question of the status of South-West Africa, formerly administered under League of Nations mandate by the Union of South Africa, was again brought before the general assembly as the result of the announcement by the Union government that it intended to establish a closer association between the Union and the former mandated territory and to discontinue sending reports to the U.N. on its administration. After extended consideration of the matter by its Fourth committee, the general assembly adopted two resolutions inviting the government of the Union of South Africa to resume the submission of reports and to comply with previous decisions of the general assembly, and requesting the International Court of Justice to give an opinion on the

international status of South-West Africa. (*See* also SOUTH AFRICA, THE UNION OF.)

During 1949 information concerning over 60 non-self-governing territories was transmitted to the secretary general and, after being summarized and analysed by the Division of Information on Non-self-governing Territories, was studied by a special committee of the assembly. The committee met at Lake Success from Aug. 25 to Sept. 12, 1949. The report submitted by the special committee, including ten draft resolutions, led to vigorous debate in the fourth session of the general assembly. The position was taken by certain of the colonial powers that the permissive limits of the charter were being exceeded. Resolutions which the general assembly adopted recommended that members administering non-self-governing territories be invited to submit political information, that administering members give special attention to the improvement of education in territories under their control, that there be more effective co-operation with specialized international bodies in providing technical training facilities for natives, that the special committee be continued for three years and that the committee devote its attention each year to a special field, such as education. The representatives of Belgium, France and the United Kingdom strongly opposed certain of these resolutions and reserved their rights.

U.N. supervision of the administration of trust territories made substantial progress during the year. Following a new procedure suggested by the president of the council, reports to the council were presented by the special representatives of the administrative authorities, and members of the council submitted both written and oral questions. Following a general discussion of each report a drafting committee on annual reports, consisting of representatives of all council members, was appointed to prepare the council's report to the general assembly on the territory in question.

During its fourth and fifth sessions the Trusteeship council considered reports of the administering authorities on the administration of Western Samoa, the Cameroons (under both British and French administration), Togoland (under both British and French administration), Nauru, New Guinea and Trust Territory of the Pacific Islands. The council also considered the report of its Visiting Mission to Trust Territories in East Africa and organized a Visiting Mission to Trust Territories in West Africa. Pursuant to a resolution adopted by the general assembly in its third session, it undertook the study of the question of administrative unions. A large number of petitions were considered, and some changes in petition procedure were adopted. In considering conditions in trust territories, the council was especially critical of the slow rate of political, economic and educational advancement and of the practice of combining trust territories with colonies in administrative unions.

The general assembly, on the basis of Trusteeship council reports and recommendations, adopted a series of resolutions reflecting a critical but constructive attitude toward the actual achievements of administering authorities. The assembly urged the more rapid advancement of trust territories toward self-government or independence, a greater participation of the indigenous population in various economic activities, greater progress in the elimination of uncivilized practices and in social improvement, improved educational facilities and the elimination of racial discrimination in education. The assembly also authorized further inquiry into the practice of administrative unions and recommended the use of the U.N. flag along with that of the administering authority. France and the United Kingdom reserved their positions on the methods of implementing these proposals. (*See* also TRUST TERRITORIES.)

General Administration and Finances. The original 1950 budget estimates of the secretary general called for gross expenditures of $44,314,398, which would have exceeded 1949 appropriations by more than $800,000. The advisory committee on administrative and budgetary questions felt that a reduction of $1,786,750 could be made in the budget and so recommended to the assembly. The general assembly finally approved appropriations amounting to $49,641,773, including $8 million for the international regime of Jerusalem. Miscellaneous income was estimated at $5,091,740.

In 1948, the general assembly had requested the committee on contributions to re-examine the existing scale of assessments. The committee concluded that since the world economic and financial situation could not be considered as having returned to normal, the time had not arrived for fixing a scale for a three-year period as contemplated in the general assembly's rules of procedure. The only adjustments proposed concerned the assessments of the United States and Sweden, which were reduced by 0·10% and 0·02% respectively. The committee fixed the contribution of Israel, the only new member, at 0·12%. (L. M. GH.)

UNITED STATES OF AMERICA, THE.

A republic in North America composed of 48 separate and (theoretically) sovereign states united by a federal government; the fifth largest country of the world in area (after the U.S.S.R., China, Canada and Brazil), the fourth in population (after China, India and the U.S.S.R.), but the foremost as to industrial production and financial resources; bounded on the north by Canada (the 49th parallel forming the western section of the boundary which follows the general line of the Great Lakes at the eastern end), on the south by Mexico, on the east by the Atlantic ocean (air distance, New York-London, 3,400 mi.), and on the west by the Pacific ocean (air distance, Seattle-Yokohama, 4,800 mi.). Area of the continental U.S. (land only): 2,977,128 sq. mi.

Population: (April 1, 1940 census) 131,669,275; (July 1, 1949 est.) 149,215,366; sometime after the middle of the year the population passed the 150 million mark. In 1940 the population included 118,214,870 whites (89·8%), 12,865,518 Negroes (9·8%), 333,969 Indians (0·3%), 126,947 Japanese, 77,504 Chinese, 45,563 Filipinos and 4,904 other non-whites. The number of foreign-born whites decreased from 13,983,405 (12·7% of the total) in 1930 to 11,419,138 (9·7%) in 1940; about 15 million U.S. white citizens were persons with both parents foreign-born; about five million had only the father foreign-born and about three million only the mother foreign-born. Total foreign white stock in 1940 numbered 34,576,718. The German foreign white stock was the largest (5,236,612), followed by the Italian (4,394,780) and the Polish (2,905,859); other countries contributing more than two million were Russia, Ireland and Canada, with England just under this figure (1,975,975). From 1940 to 1949 there was a great westward movement of the population: during this period the states of California, Oregon and Washington showed a net gain of 54%; Mississippi, Montana, North Dakota and Oklahoma lost slightly; Florida and Virginia gained substantially (*see* Table I.). The non-white population, checked in the past by a relatively high death rate, was increasing more than the whites during 1940-47 (11·6% increase compared with 7·5% for whites).

In 1948 there were in the U.S. 53 religious bodies of more than 50,000 members, with a total of 75,371,137 members. Though Protestants as a group outnumbered Roman Catholics by almost two to one, the Roman Catholic Church, with a total of 25,268,173 (35% of the total, mainly Americans of Irish, Italian, Polish and German extraction) was far ahead of any other single denomination. Nine Baptist bodies numbered 15,230,014 (including more than four million Negroes); four Methodist bodies 10,337,682 (including

about 1,770,000 Negroes); seven Lutheran bodies (mainly Americans of German or Scandinavian extraction) 5,098,515; four Presbyterian bodies 3,127,000; Protestant Episcopal Church 2,160,207. The largest non-Christian congregation was Jewish (4,641,000).

Chief towns (pop., first figure 1940 census; second figure 1949 est.): Washington, D.C. (*q.v.*) (cap., 663,091; 870,000); New York (*q.v.*) (7,454,995; 7,887,748); Chicago (*q.v.*) (3,396,808; 3,632,808); Philadelphia (1,931,334, 2,100,000); Detroit (1,623,452; 1,815,000); Los Angeles (1,504,277; 1,947,785); Cleveland (878,336; 900,000); Baltimore (859,100; 930,000); St. Louis 816,048; 840,000); Boston (770,816; 766,386); Pittsburgh (671,659; 700,000); San Francisco (634,536; 814,500).

President of the United States: Harry S. Truman (*q.v.*); vice-president: Alben W. Barkley (*q.v.*). The U.S. cabinet on Dec. 31, 1949 was as follows:

Secretary of State	Dean G. Acheson (*q.v.*)
Secretary of the Treasury	John W. Snyder
Attorney General	J. Howard McGrath
Postmaster General	Jesse M. Donaldson
Secretary of the Interior	Oscar L. Chapman
Secretary of Agriculture	Charles F. Brannan
Secretary of Commerce	Charles Sawyer
Secretary of Labour	Maurice J. Tobin
Secretary of Defence	Louis A. Johnson

THE STATES OF THE UNITED STATES OF AMERICA, THEIR POPULATIONS, AREAS AND CAPITALS

State	Population 1940 Census	Population July 1, 1949 Estimate	Land Area 1940 sq. mi	Capital City
Alabama	2,832,961	2,920,000	51,078	Montgomery
Arizona	499,261	745,000	113,580	Phoenix
Arkansas	1,949,387	1,964,000	52,725	Little Rock
California	6,907,387	10,665,000	156,803	Sacramento
Colorado	1,123,296	1,215,000	103,967	Denver
Connecticut	1,709,242	2,019,000	4,899	Hartford
Delaware	266,505	311,000	1,978	Dover
Florida	1,897,414	2,494,000	54,262	Tallahassee
Georgia	3,123,723	3,196,000	58,518	Atlanta
Idaho	524,873	592,000	82,808	Broise
Illinois	7,897,241	8,449,000	55,947	Springfield
Indiana	3,427,796	3,994,000	36,205	Indianapolis
Iowa	2,538,268	2,643,000	55,986	Des Moines
Kansas	1,801,028	1,947,000	82,112	Topeka
Kentucky	2,845,627	2,893,000	40,109	Frankfort
Louisiana	2,363,880	2,630,000	45,177	Baton Rouge
Maine	847,226	909,000	31,040	Augusta
Maryland	1,821,244	2,175,000	9,887	Annapolis
Massachusetts	4,316,721	4,713,000	7,907	Boston
Michigan	5,256,106	6,352,000	57,022	Lansing
Minnesota	2,792,300	2,977,000	80,009	St. Paul
Mississippi	2,183,796	2,130,000	47,420	Jackson
Missouri	3,784,664	3,935,000	69,270	Jefferson City
Montana	559,456	521,000	146,316	Helena
Nebraska	1,315,834	1,285,000	76,653	Lincoln
Nevada	110,247	174,000	109,802	Carson City
New Hampshire	491,524	544,000	9,024	Concord
New Jersey	4,160,165	4,873,000	7,522	Trenton
New Mexico	531,818	589,000	121,511	Santa Fe
New York	13,479,142	14,392,000	47,929	Albany
North Carolina	3,571,623	3,864,000	49,142	Raleigh
North Dakota	641,935	605,000	70,054	Bismarck
Ohio	6,907,612	7,989,000	41,122	Columbus
Oklahoma	2,336,434	2,302,000	69,283	Oklahoma City
Oregon	1,089,684	1,736,000	96,350	Salem
Pennsylvania	9,900,180	10,633,000	45,045	Harrisburg
Rhode Island	713,346	743,000	1,058	Providence
South Carolina	1,899,804	2,001,000	30,594	Columbia
South Dakota	642,961	649,000	76,536	Pierre
Tennessee	2,915,841	3,234,000	41,961	Nashville
Texas	6,414,824	7,532,000	263,644	Austin
Utah	550,310	682,000	82,346	Salt Lake City
Vermont	359,231	369,000	9,278	Montpelier
Virginia	2,677,773	3,102,000	39,899	Richmond
Washington	1,736,191	2,582,000	66,977	Olympia
West Virginia	1,901,974	1,941,000	24,090	Charleston
Wisconsin	3,137,587	3,355,000	54,715	Madison
Wyoming	250,742	284,000	97,506	Cheyenne
District of Columbia	663,091	870,000	61	—

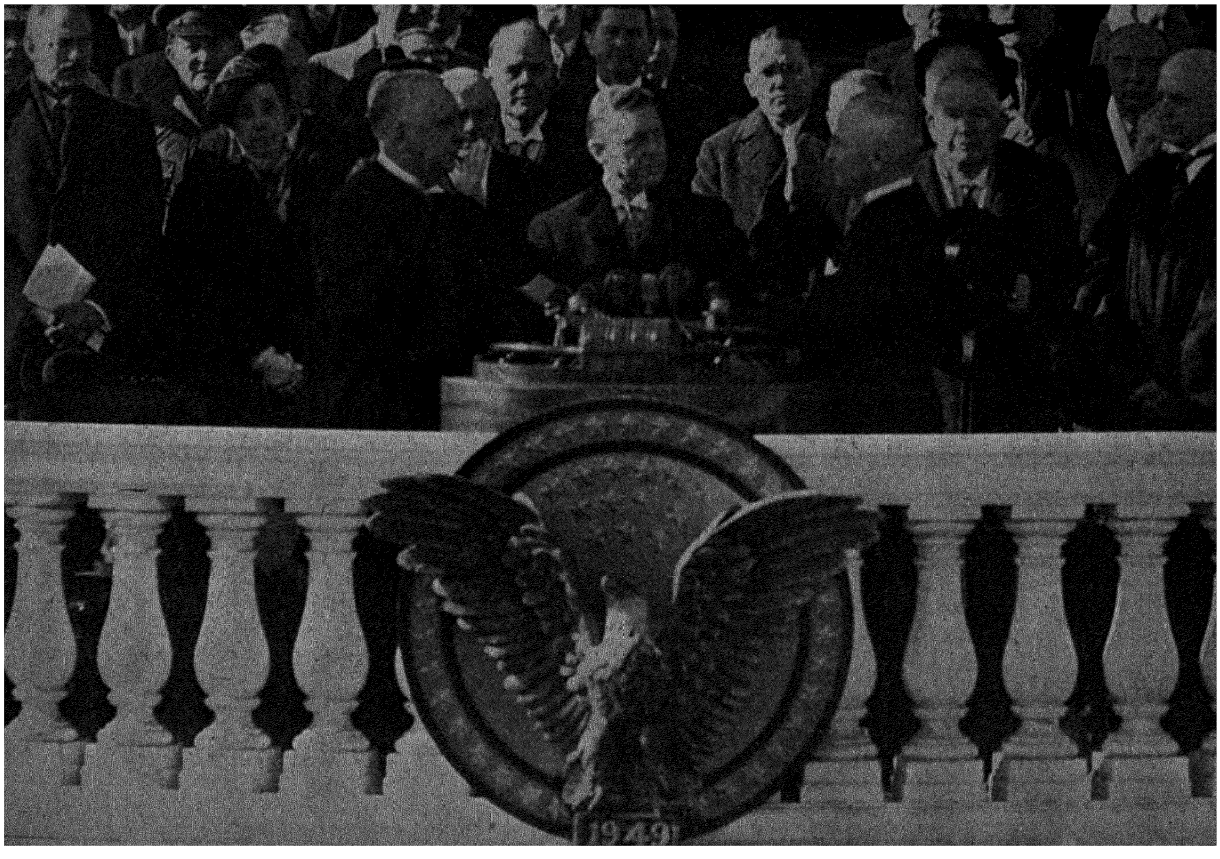
History. Upon taking office on Jan. 20, President Harry S. Truman called for more taxes to bring in an additional $4,000 million revenue. Truman's programme for labour included repeal of the Labour-Management (Taft-Hartley) act of 1947 and re-enactment of the Wagner act with improvements; reorganization of the Department of Labour; and the enactment of a minimum wage law requiring at least 75 cents an hour. For the farmer Truman asked for an improved national programme to insure abundant agricultural production, parity of income for farmers through farm price supports, and good utilization of land. To expand domestic markets for farm products and increase and stabilize foreign markets was a further aim of this programme. To raise the standard of living of the U.S. people as a whole, the president asked for expansion of the social security programmes with increase in the size of benefits and increased coverage against unemployment, old age, sickness and disability. To accomplish this, he proposed a system of prepaid medical insurance and remedies for the shortage of doctors, hospital facilities and nurses; federal financial aid to states to help them operate and maintain their school systems; the enactment of legislation for low-rent public housing, slum clearance, farm housing and housing research and encouragement of the building industry to produce lower priced housing by allocating materials in short supply and imposing price ceilings on such materials. Finally, the president called for the enactment of the civil rights proposals he had made to the 80th congress.

Problems at Home. Uneasiness caused by the menace of communism abroad was increased by the evidences of communism at home, shown notably in the trial of 11 Communist party leaders in the U.S. district court in New York city. This trial ended on Oct. 14, with a verdict of guilty of secretly teaching and advocating, on orders from Moscow, the overthrow and destruction of the government of the United States by force and violence. Although the defendants were conceded by the government an arguable point on appeal under the free speech amendment, the nine months long, carefully handled trial had presented overwhelming testimony as to the incompatibility of Communist party activities with U.S. ideals.

The verdict in this case helped to resolve in the public mind the confusion caused by other trials, in particular the trials of Alger Hiss former official of the State Department, accused by a confessed former Communist, Whittaker



Clifford K. Berryman in the "Evening Star" (Washington) comments on the mutual press criticism of Britain and America in the autumn of 1949. (Mr. Berryman died on Dec. 11, 1949).



Harry S. Truman (with hand raised) being sworn in as president of the United States of America at Washington, Jan. 21, 1949. Administering the oath is Frederick M. Vinson, chief justice of the supreme court.

Chambers, of passing to Soviet agents confidential state documents. Because of the confidence in Hiss expressed by a number of men prominent in public life, these trials, more than spanning the year, were sensational and deeply disturbing to the public.

The charge of Senator Bourke Hickenlooper that David Lilienthal, chairman of the Atomic Energy commission, was guilty of " incredible mismanagement " produced long and exhaustive hearings before a joint congressional committee. At the close, the chairman was exoncrated by a majority vote, but it was partisan in the continuance of doubt—either on political or practical grounds—on the part of Republican members.

The conflicts between president and congress as to specific measures resulted in a stalemate when congress adjourned in the autumn. This, of course, was not an unusual condition in U.S. politics. It was clear, however, that the president ended the year in a stronger position on domestic issues than at the opening of congress. Both parties, as represented in congress, were seriously divided on every major issue. The Democratic party did not have a dependable majority. The southern Democratic revolt was stronger at the close than at the beginning. The president had made no major overtures at reconciliation and was still pressing his programme of civil rights when congress adjourned.

Discussion continued on the theme of so-called outworn political alignment, that is, Republican *versus* Democrat. The composition of party membership in the congress emphasized the divisions on party programme; within the Democratic membership were wide divergences of belief, notably on the civil rights issue and on other domestic proposals; within the Republican membership, there was greater agreement on domestic problems, but none whatever on either temporary or fundamental questions in foreign relations. Consequently legislation, when enacted, was by bi-partisan vote, notably on the North Atlantic treaty, military aid to Europe, continuance of the European Recovery programme and extension of reciprocal trade agreements. There was every indication as the year closed that the various divisions in the congress reflected actual divisions in the electorate and that, barring dramatic realignment caused by events beyond the borders of the country, the fundamental differences between the two great parties were to be more marked than at any time since 1932. Third parties were as unimportant in public thinking as at any time since the opening of the century.

A hard working congress in an unusually extended session, due to conflict with a determined president, accomplished five important objectives: (1) reaffirmation, by financial support amounting to more than $5,000 million, for the second year of the economic aid to Europe; (2) ratification of the North Atlantic treaty; (3) passage of the Reciprocal Trade Agreements act, restoring the full powers of the president to negotiate reciprocal trade agreements on the pattern successfully pursued by Cordell Hull; (4) adoption of the National Housing act, a long range measure to obtain low rental public housing and slum clearance; (5) passage of a series of reorganization acts following the recommendations of the Commission on Organization of the Executive Branch of the Government (Hoover commission). President Truman signed 792 measures enacted into law by his signature and vetoed 32 measures.

Failure to act on the president's civil rights programme appeared as the reflection of a southern Democratic-Republican coalition in this entire field of legislation. Failure to enact a new labour bill correcting some of the faults which experience had demonstrated in the existing Taft-Hartley act was attributable to the pressure of the administration for a dramatic repeal of the latter. The fact that congress failed to vote $4,000 million in taxes called for by the President and yet voted a budget in which prospective expenditures would exceed prospective revenue, possibly by as much as $5,000 million, reaffirmed national deficit financing. The passage of a new farm bill, which fixed farm-price supports at the highest level ever reached, placed upon congress responsibility for greatly increasing the taxpayer's burden, placing the consumer at a disadvantage, and disregarding the pledges given by both political parties in favour of a system of flexible supports. Minimum wage rates in the nation were raised by the 81st congress from 40 to 75 cents an hour. Legislation for federal subsidies to schools, for creation of a department of public welfare, for compulsory national health insurance and for the extension of social security failed of passage.

The trade unions continued to press for security and for increased wages. Outstanding was the campaign for the fourth round of wage increases since the end of the war. By the middle of July a stalemate was complete between the steelworkers and the steel companies. The federal fact-finding board on Sept. 10 recommended no increase in wages, but the payment of pensions and social insurance by management. This the unions accepted and management rejected. The steel workers went on strike in October, and by the end of the month won. The contracts which were then signed pointed the way for all industry on this issue. In common with the mood of the rest of the nation, organized labour was engaged throughout the year in expelling known Communists and in reducing the powers of more radical unions.

The rise of the power of organized labour in politics had never been more evident than in the year 1949. Its importance was clearly recognized by the president in his inaugural speech and again in his message to congress. The programmes of both American Federation of Labour and Congress of Industrial Organizations for wage increases and for pension provisions were constantly under public discussion. The role of John L. Lewis, in his conferences on strikes and in his public utterances, was dramatically presented in newspaper and radio comment. The public was aware that no question in domestic legislation and no issue in politics was unaffected by the attitude or anticipated attitude of labour. Election figures indicated that the political power of labour in votes far transcended the membership in organized trade unions. In the congress the issue was drawn upon proposals to repeal the Taft-Hartley act and to amend it to the extent of making it workable. The heart of the discussion was on the injunction clause. The Senate under the leadership of Senator Robert A. Taft by a close vote modified the act, but the bill was buried in the House. The administration maintained its position demanding repeal and re-enactment of the Wagner act. The full intent of the leaders of organized labour was seen at the end of the year in the issuance of the call by the American Federation of Labour on its members to express their sentiments at the polls in punishing 107 "enemies of labour" in congress, almost all of them Republican.

Foreign Policy. The North Atlantic treaty was ratified by the Senate in a vote of 82-13 on July 21. Shortly afterwards Truman submitted his proposal for a military assistance programme which, on Sept. 22, came to its crucial test in the Senate and was passed by a vote of 55-24 pledging $1,314 million. By October, spending under the Marshall plan went over the $7,000 million mark. The menace of Communism as a revolutionary force in the world outside the United States was made more vividly evident to Americans by the announcement of President Truman on Sept. 23, the day after the passage of the Arms Aid bill, that an "atomic explosion" had taken place in the Soviet Union. This was followed by a nation-wide debate as to the possible need for reshaping all plans not only for defence but also for participation in an open alliance having an aggressive programme of attack. The extreme views were less evident after a month of debate. On the whole, belief prevailed that a general war was not near. That the U.S.S.R. had been "contained" in Europe came to be greatly acknowledged.

United States interest in Asia was renewed as the spread of Soviet influence in China proved to be inevitable. At the opening of the year, the Nationalists still held at least half of China, and Americans, recalling earlier Chinese civil wars, of which they knew little, saw a stalemate and a compromise between Communists and Nationalists. The complete collapse of Chiang Kai-shek was unexpected.

The last year of the first half of the twentieth century was marked by many Americans as a year of great disillusionment. The utterances of the year revealed the final dawning of the realization that the alignment in the long debate between reason and faith was no longer clearly defined. Not only in the natural sciences, particularly in physics, but also in the social sciences, notably psychology, the mood was one of uncertainty if not of actual despair. This did not rise out of failure in research or even in application—that is, in immediate result—but out of a growing certainty that only within sharply delineated limits was man master of his fate. The realignment found an increasing number of churchmen moving toward fundamentalism in theology and toward unity in organization. Likewise, the advocates of reason were forced by the growing apprehensions of mankind to lessen their advocacy of dependence upon intellectual attainment and to emphasize that the factors of chance and



Mrs. Eugenie Anderson being sworn in on Oct. 28, 1949, as United States ambassador to Denmark. She was the first woman to hold ambassadorial rank. In centre is Dean Acheson, secretary of state.

inspiration might save man from his patent weaknesses. Education seemed to be at a crossroads. Increased enrolments in all institutions of higher learning continued to reflect the public acceptance of education as a road to competence and power. But educators who had been for a decade satisfied with curricula that emphasized science through research and learning by adjustment were returning to a belief in the importance of the social sciences and the humanities. But here it was not an awareness of subject matter nor a knowledge of book content—even that of the

greatest minds—which was sought as an objective. There was a growing conviction that the informed man and the trained mind prepared the mature citizen to do his part—not in the school—but in the society of which he was a member. Consequently, increased attention upon adult education was directed to the fundamental, as well as the practical, aspects of the individual in society.

Americans continued, as no other nation in this or any other age, to be interested in peoples and events outside the United States. By newspaper and radio, by lecture and pronouncement of experts the American citizen was informed as to his place in a world of peoples and nations. The world inside his head was at once the repository of a countless array of bewildering new facts, and also a battleground upon which were fought out the issues of the world. That no decisions were reached, and that vast arrays of facts were soon forgotten, did not alter the circumstance that the American had—despite all his traditions and inclinations—become a world citizen. (E. E. R.)

Education Data in Tables I and II, gathered by the U.S. Office of Education, are taken from the *Statistical Abstract of the United States 1948* and relate to the continental U.S.

TABLE I.—PUBLIC ELEMENTARY AND SECONDARY SCHOOLS

	1939-40	1943-44	1949-50 (est.)
Pupils in elementary schools	18,832,098	17,713,096	20 500,000
Pupils in secondary schools	6,601,444	5,553,520	6,500,000
Teachers, all schools	875,477	827,990	—

In 1946 there were 160,227 public elementary and 24,314 public secondary schools. In 1945-46 there were also 13,296 private (mainly Roman Catholic) elementary and secondary schools with a total enrolment of 2,724,572 pupils. Vocational schools had a total enrolment of 2,227,663 in 1945-46 and a teaching staff of 44,979.

TABLE II.—INSTITUTIONS OF HIGHER EDUCATION

	1939-40	1943-44	1947-48
Total resident students	1,494,203	1,155,272	2,338,226†
Teaching staff	131,552	134,451	—

† Including 1,222,728 veterans receiving a subsistence allowance of $75 a month from the U.S. Veterans' administration.

The above figures cover about 1,650 universities, colleges, junior colleges, professional and teachers' colleges, both publicly and privately controlled. Of 164 universities the oldest are Harvard (Cambridge, Massachusetts, 1636), Yale (New Haven, Connecticut, 1701) and Pennsylvania (Philadelphia, 1740). The largest are the universities of California (Berkeley and Los Angeles, 42,637 students in 1947-48), Columbia (New York, 31,604), Minnesota (Minneapolis, 28,312) and Illinois (Urbana, Illinois, 28,284). Four other universities had over 20,000 students and 16 universities over 10,000.

Education in the U.S. is financed by the member-states or privately and to a small extent by the federal government. In 1943-44, for example, the total expenditure on education amounted to $3,398 million, including $2,453 million on public elementary and secondary schools, $264 million on private elementary and secondary schools, $402 million on public institutions of higher education and $279 million on private institutions of higher education. This explained why in the federal budget a relatively small sum was allocated for education and general research ($125 million in 1949-50). Illiteracy dropped to 2·7% in 1949 compared with 4·3% in 1930.

Agriculture Data in Tables III, IV and V are taken from *Monthly Bulletins of Food and Agriculture Statistics*

TABLE III.—AGRICULTURAL PRODUCTION ('000 metric tons)

	1934-38	1947	1948	1949
Wheat	19,470	37,209	35,065	30,651
Barley	4,495	6,122	6,902	5,095
Rye	1,028	660	670	478
Oats	13,973	17,410	21,653	19,175
Rice	956	1,597	1,657	1,786
Maize	53,066	60,555	92,728	85,287
Potatoes	10,024	10,588	12,134	10,528
Cotton, ginned	2,756	2,582	3,252	3,523
Tobacco	590	957	899	—

With 6·8% of the world's population the U.S. produced more than half of the world's total production of maize and cotton in 1948, over two-fifths of oats, a quarter of tobacco and one-fifth of wheat.

TABLE IV.—LIVESTOCK ('000 head)

	Jan. 1939	Jan. 1945	June 1948
Cattle	66,029	85,573	78,495
Pigs	50,012	59,331	55,038
Sheep	45,463	39,609	34,827
Horses	10,629	8,715	5,291

In 1948 the U.S. had about 12% of the world total of cattle and 22% of pigs.

TABLE V.—FOODSTUFFS PRODUCTION ('000 metric tons)

	1937	1946	1947	1948	1949
Meat (total)	7,340*	10,413	10,628	9,798	10,059
Milk (total)	48,286*	55,583	55,426	52,395	55,000
Factory butter†	736·8	531·6	603·6	550·8	665
Factory cheese‡	294·0	499·2	534·0	498·0	586
Sugar, raw value	1,673	1,768	2,003	1,675	1,905

* Average 1935-39
† Includes whey butter ‡ Excludes cottage and full-skim cheddar cheese.

The average yearly egg production in 1940-44 was 48,648 million; in 1946 it reached 55,613 million, that is, 394 eggs per inhabitant.

Fisheries (1947, including Alaska). total catch, 4,378 million lb. valued at $303 million (1939: 4,443 million lb. valued at $96·5 million).

Industry The U.S. Census bureau reported that the number of civilians employed in Dec. 1949 was 58,556,000—878,000 fewer than in Dec. 1948. The number of unemployed increased during that year from 1,941,000 to 3,489,000. The number of persons employed in all non-agricultural industries decreased from 36,016,000 in Oct. 1948 to 35,123,000 in Oct. 1949. In 1947 there were 240,881 manufacturing establishments employing 14,294,000 persons. Data in Tables VI, VII and VIII are taken from the *U.N. Stastical Yearbook 1948* and from *U.N. Monthly Bulletins of Statistics*.

TABLE VI.—PRODUCTION OF FUEL AND POWER

	1940	1947	1948	1949
Coal ('000 metric tons)	464,711	623,975	590,626	427,000
Gas (million cu m.) natural	75,332	125.864	138,000	—
Gas (million cu m.) m'factured	10,154	14,938	14,848	—
Electricity (million kwh.)	179,907	307,400	336,592	282,000
Crude petroleum ('000 metric tons)	182,867	254,261	276,203	251,600

In 1948 the U.S. produced two-fifths of the world extraction of coal and almost three-fifths of crude petroleum. In 1949 the loss in production of coal (27·6% in comparison with 1948) and electricity (16%) was explained by coal strikes.

TABLE VII.—PRODUCTION OF METALS ('000 metric tons)

	1940	1947	1948	1949
Pig iron	43,027	54,559	55,200	46,800
Steel	60,765	77,015	80,412	70,600
Copper	922·4	857·0	889·2	823·4
Zinc	640·8	769·2	771·6	789·2
Lead	531·6	529·2	494·4	501·3
Aluminium	187·1	518·7	565·6	560

The U.S. share in world production of metals in 1948 was as follows: pig iron 48%, steel 52%, copper 40%, zinc 45%, lead 33%, aluminium 47% and tin 22%.

TABLE VIII.—MANUFACTURING INDUSTRIES

	1940	1947	1948	1949
Cement ('000 metric tons)	22,575	31,997	34,620	35,561
Building bricks (million units)	4,079	5,026	5,844	5,445
Rubber ('000 metric tons) synthetic	2·6	516·9	496·2	400·3
Rubber ('000 metric tons) reclaimed	212·0	296·1	271·1	—
Woven cotton fabrics (million m.)	7,572†	8,964	8,820	7,442
Wool yarn ('000 metric tons)	269·6†	357·6	362·4	301·6
Rayon ('000 metric tons) filament yarn	176·9	338·7	388·3	348·0
Rayon ('000 metric tons) staple fibre	36·8	103·6	121·6	78·0
Motor vehicles ('000 units) cars	3,717·4	3,558·2	3,909·2	5,136·8
Motor vehicles ('000 units) commercial	754·9	1,239·6	1,376·2	1,138·0

† 1939

The downward movement in the U.S. industrial production was the natural and inevitable readjustment from the postwar inflationary levels. The production index in manufacturing industries, having reached 181 in Oct. 1948 (1937=100) declined to 150 in June 1949 but was 164 in December. This improvement—as President Truman said in his message to the congress on Jan. 6, 1950—"confounded the enemies of freedom who waited eagerly for the collapse of the American economy." On Dec. 21, 1949, in the Stalin birthday issue of *Pravda*, three members of the Politburo stated categorically that a depression existed in the U.S., *Izvestia* (Dec 29) saw the U.S. in the throes of "economic chaos and anarchy."

Foreign Trade The geographic area covered by data in Table IX is the U.S. customs area, which includes Alaska, Hawaii and Puerto Rico (Virgin Islands only from 1935 to 1939).

TABLE IX.—FOREIGN TRADE (million dollars)

	1936-40†	1941-45†	1947†	1948‡	1949‡
Exports	3,219 6	10,051·2	14,456 4	12,666	12,023
Imports	2,482 0	3,507 5	5,732 5	8.058	7,532
Excess of exports	737 6	6,543 7	8,723 9	4,608	4,491

† *Statistical Abstract of the U S 1948*
‡ *International Financial Statistics* (March 1950)

In the mid-19th century the U S was largely an exporter of raw materials such as cotton and tobacco and an importer of manufactured goods from Europe. In the years 1936-40 finished manufactures represented over 52% of its exports and raw materials 33% of imports. Main destinations of exports (1948). Europe (E.R P. countries) 33 2%, Latin America 25 1%, Asia 16 7%, Canada 15 0% Main sources of imports. Latin America 33 3%, Canada 21 4%, Asia 18 7%, Europe (E R.P. countries) 13 4%.

Transport and Communications Railways (1946) 239,869 mi Rolling stock (1946): locomotives 45,511 (including 867 electric), goods waggons 1,768,400, passenger coaches 38,697 Rail transport (1948): passengers 66,072 million passenger-mi ; goods, 927,444 million tons-mi Roads (1945). 3,012,371 mi , including 1,494,851 mi. surfaced Motor vehicles registered (1947, in brackets 1937) cars 30,719,000 (25,391,000), commercial 6,642,000 (4,315,000). Shipping. between June 30, 1939, and Sept 30, 1946, the U.S. sea-going merchant marine increased from 1,091 vessels of 1,000 gross tons and over to 2,332 and from 9,303,000 to 25,400,000 dead weight tons By Sept 30, 1949, the number of vessels dropped to 1,214 totalling 14,350,000 d w t.; at that date 1,974 government-owned vessels were kept in reserve From the end of World War II until March 1, 1948, 1,117 vessels were sold to foreign countries According to *Lloyd's Register Book 1949-50*, out of a total of about 72 5 million gross registered tons of the world's sea-going shipping in 1949, the U.S was 25 9 million g.r t , or 36%. Before World War II the U S merchant marine was the second largest after that of the U K and before that of Japan; after World War II it became the world's largest, closely followed by that of the U K., with Norway in third place Air transport *see* AVIATION CIVIL. Number of telephones (Jan 1, 1949) 38,205,483, or 58% of the world's total,(1937) 19,450,000 Broadcasting transmitting stations (1947) 2,972, (1937) 734; approximately 74 million wireless receiving-sets (including 11 million installed in cars) were in use at the end of 1948, as compared with 50 million (including 8 million installed in cars) in Dec 1940

Finance and Banking. Table X gives the U.S. postwar budget figures with the last prewar budget as a measure of comparison The fiscal year ends on June 30. All figures given in $ million.

TABLE X.—U S. FEDERAL REVENUE AND EXPENDITURE

	1939-40†	1946-47†	1947-48†	1948-49†	1949-50‡	1950-51‡
Revenue	5,387 1	43,259	42,211	38,246	37,763	37,306
Expenditure	9,127 4	42,505	33,792	40,057	43,297	42,439
Surplus or Deficit	—3,740 3	+754	+8,419	1,811	—5,534	—5,133

† Actual ‡ Estimates.

Public debt. (Dec 1949) 257,130, (Dec 1939) 41,961. Currency circulation (Dec. 1949) 27,600, (Dec. 1939) 7,598. Deposit money. (Nov. 1949) 85,500, (Dec 1939) 29,800 Gold reserves. (Dec 1949) 24,563, (Dec 1939) 17,799. National personal income. (1949) 211,500, (1939) 72,600. Government foreign credits (Sept 30, 1949)· outstanding 9,868 2; unutilized commitments and authorizations 1,658·3; total 11,526 5

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(K. SM.)

UNITED STATES TERRITORIES AND POSSESSIONS.

Under this heading are grouped the territories and overseas possessions of the United States. Their total area is 597,370 sq. mi. and the total population (1949 est.) 3,014,300. Certain essential information on these dependencies is given in the table which does not include the smaller Pacific islands administered by the U.S. navy department (Johnston, Kingman Reef, Kure, Midway, Palmyra, and Wake), by the U.S. department of the interior (Baker, Howland and Jarvis), or which are under joint British-U.S. sovereignty (Canton and Enderbury).

UNITED STATES TERRITORIES AND POSSESSIONS

	Area (In sq mi)	*Population* (1949 est)	*Status*	*Governors*
Alaska	586,400	100,000	territory	Governor, Ernest Gruening
Hawaii	6,433	530,891	territory	Governor, Ingram M Stainbeck
Puerto Rico	3,435	2,180,314	self-governing dependency	President, Luis Muñoz Marin
Virgin Islands	133	30,000	territory	Acting governor, Morris F de Castro
Guam	206	101,744	possession	Governor, Carlton Skinner
Samoa, American	76	18,373	possession	Governor, Capt. Thomas F. Darden, Jr , U.S.N.
U S Pacific islands under trusteeship *	687	53,000	trust territory	High Com., Admiral Arthur W. Radford

* The Caroline, Marianas and Marshall archipelagoes (*see* TRUST TERRITORIES)

Alaska. The northernmost territory of the United States, Alaska is separated from Asiatic U.S.S.R. by Bering strait. The boundary line runs between the Big Diomede island, which is Soviet soil, and the Little Diomede island, which is on the U.S side. These islands are about 4 mi. apart. The population of Alaska is made up of about 60% whites and 40% Eskimos, Aleuts and Indians. Capital (pop., 1940 est.): Juneau (5,748).

The territorial legislature met in a special session of 17 days and a regular biennial session of 60 days in 1949 and enacted the territory's first basic tax system consisting of an income tax, property tax and business licence tax. The income tax levies 10% of the amount the taxpayer pays the federal government under the internal revenue code; the property tax is 1% of the true and full value, with $200 exemption on personal property; the business licence is $25 for any and all business enterprises, with a graduated levy on all gross receipts of more than $100,000. The legislature created a territorial department of fisheries and department of aviation and established a national guard. It appropriated $17,279,000 for operation of the territory during the 1949-50 biennium. The anticipated revenue for the same period was $19 million.

Construction of defence installations were concentrated at key points in 1949. Late in the year announcement came from the military high command that ground troops would be withdrawn from the Aleutian island chain although the air arm would be maintained. Lack of sufficient funds to rebuild the temporary installations made in the islands during World War II was given as the reason.

Education. In 1949 the territory had 26 incorporated school districts and 58 rural schools with 549 teachers and about 12,000 pupils. In addition, the Alaska Native service of the Department of the Interior maintained 85 day schools and 3 boarding schools with a total of 5,000 pupils. The University of Alaska, at College, farthest north U S college, had an enrolment of 400.

Economy The 1949 fishery season was one of the best in Alaska's history. The total pack of salmon was 4,375,147 cases, valued at $100 million. The halibut fishery produced about 50 million lb., valued at $10 million

Gold production was still down from prewar years, but 1949 production was approximately $8,750,000, about the same as 1948. A new strike was made on the Yukon river northeast of Fairbanks near the Arctic circle in the autumn of 1949, and claims were staked along the river for about 20 mi , hundreds of prospectors stampeding to the area. The real value of the strike would not be known until spring, as winter had closed down operations. Coal production was about 400,000 tons.

(L .M. W.)

Hawaii. The territory of Hawaii consists of a group of eight large islands and numerous islets in the Pacific ocean. It includes Midway, with an archipelago of rocks, reefs and

shoals, and Palmyra, a coral atoll consisting of 55 islets. The largest island in the territory is Hawaii, with an area of 4,021 sq. mi. The capital of the territory is Honolulu (pop., 1949 est.) 267,755, situated on the island of Oahu. The largest single racial group is Japanese (33·8% of the total), the second largest is white or Caucasian (30·8%), and the Hawaiians and part-Hawaiians are third (14%).

Hawaii had been a territory of the United States since 1900. Since that date the territory had made repeated petitions to the U.S. congress for statehood and in a plebiscite in 1940 its electors voted in favour of statehood by a majority of more than two to one. A statehood constitutional convention was to be held in Honolulu in April 1950, with delegates from all of the major islands attending. The constitution drafted at this convention would be submitted to the territorial legislature for approval and then sent on to congress with the request that it be approved by that body.

Economy and Finance. Principal production (1948-49) sugar 835,107 short tons; canned pineapple and pineapple juice 20,322,775 cases; coffee about 6 million lb. Fisheries: total catch (1948-49) about 7,000 tons valued at $4·3 million.

Hawaii purchased from the United States in 1948 merchandise valued at approximately $350 million and shipped to the mainland products valued at about $182 million.

Total territorial tax collections on business and otherwise amounted to $64·7 million, compared with $54·2 million in 1947. The net bonded indebtedness was reduced to $7·2 million. The net assessed valuation of real property was $299·2 million. Internal revenue collections for the fiscal year ending June 30, 1948, totalled $108·2 million compared with $107·6 million in 1947. (I.M.S.)

Puerto Rico. A U.S. island dependency in the West Indies. In 1949 rural population was 64% of the total, urban 36%; 76·5% of the population is white. Chief cities (pop. 1949 est.): San Juan (cap., 237,623); Ponce (74,393); Mayaguez (62,051). Languages: Spanish and English. Religion: predominantly Roman Catholic.

Education. In 1949 there were 446,520 pupils in the public and private schools. Enrolment in the public schools was distributed as follows: elementary 300,163, secondary 86,066, vocational 1,292, evening schools 12,625, special courses for veterans 21,479. Teaching staff: public schools 9,375, private schools 1,070. Higher education was carried on by the University of Puerto Rico, the Polytechnic Institute and the College of the Sacred Heart. During the year Santa Maria university was opened by the Catholic Church at Ponce.

Economy and Finance. In 1949 more than 10·9 million short tons of sugar cane were harvested, the tobacco crop was estimated at 270,000 cwt., coffee crop at 229,200 cwt. and pineapple production at 1,250,000 crates. Sugar production in 1949 amounted to 1,278,000 short tons of raw sugar 96° basis. Sugar refining operations in the island yielded 210,000 short tons of refined sugar 96° basis.

The total value of imports into Puerto Rico during 1948 was $362,373,214; of this total 93·3% were shipments from the United States. The total value of exports for the same period was $194,952,278 of which 96·8% were shipments to the U.S.

During the year 1948-49, 55,710 motor vehicles were registered, excluding government-owned cars. The Insular Department of the Interior kept under maintenance (June 30, 1949) 3,437 km. of roads. During 1948-49, 3,130 vessels arrived at the island, with a registered tonnage of 9,916,700. On June 30, 1949, there were 33,312 telephones in service.

Budget (fiscal year 1948-49) revenue $206,818,177, expenditure $230,113,948. (J.L.-EE.)

Virgin Islands. The Virgin Islands (Danish West Indies until 1917) have the status of an organized but unincorporated territory of the United States. The three largest islands located some 40 mi. east of Puerto Rico, are St. Croix (pop., 1947 est., 13,000); St. Thomas (16,200) and St. John (800). The chief cities are Charlotte Amalie, the capital, on St. Thomas (9,801), Christiansted (4,495) and Frederiksted (2,498) on St. Croix. About 69% of the population is Negro, 22% mixed and 9% white. Language: mainly English. Religion: Christian (Protestant and Roman Catholic).

The Virgin Islands depended upon the outside world for much of their essential food, clothing and materials. Until this unavoidable expenditure abroad was balanced by the creation of marketable wealth or value in the islands, the economic problem could not be solved. Three approaches, each complementary to the other, were being made to this problem. These included the development of tourism as a major industry, the production of speciality crops for export and the promotion of new industry.

The $10 million federal public works programme was considerably advanced during 1949. The abattoir at St. Thomas was completed and the potable water supply project nearly completed. Several miles of road had been reconstructed in St. Thomas and St. Croix. Work on the new waterfront highway in St. Thomas was expected to begin early in 1950, along with the installation of improved telephone communication in both St. Thomas and St. Croix.

The governor until Nov. 30, 1949, was William Henry Hastie, the first Negro governor, inaugurated by President Harry S. Truman on May 17, 1946. Morris F. de Castro, government secretary, was serving as acting governor until a new appointment was made.

Education. Enrolment in the public schools totalled 4,401 including 2,752 in St. Thomas and St John and 1,649 in St. Croix.

Economy and Finance. A total of 298 commercial ships with a gross tonnage of 1,603,374 entered the port of St. Thomas during the fiscal year 1948-49 compared with 417 ships and a gross tonnage of 2,435,760 in the previous year. During the calendar year 1948 goods valued at $9,465,562 were imported, but the value of exports reached only $1,698,037. St. Croix produces the sugar crop of the islands In 1949 the Virgin Islands company produced 4,579 tons of sugar, a slight increase over the previous year (M. F. DE C.)

Guam. The largest and southernmost island of the Marianas, lying in the Pacific about 5,100 mi. from San Francisco and 1,500 mi. from Manila. Area: 206 sq. mi. Population (July 1, 1949) consisted of 26,744 Guamanians and about 75,000 non-Guamanians, including U.S. military and civil service personnel. The Guamanians are Chamorros and their religion is predominantly Roman Catholic.

Guam is administered by the U.S. navy; however, on July 1, 1950, the U.S. Department of the Interior was scheduled to take over responsibility for the administration of the island. Rear Admiral Charles A. Pownall, who retired on Sept. 1, 1949, was the last naval officer to be appointed governor; on Sept. 3 Carlton Skinner was appointed by the president of the U.S. as the first civilian governor of the island. The Guam congress, composed of a House of Council and a House of Assembly, is a popularly elected legislature. In 1947 the Guam congress received legislative power in place of its former advisory power. The congress can also override the governor's veto. Each of the island's 15 municipalities is headed by a Guamanian commissioner elected by popular vote for a four-year term.

Education. In 1949 there were 21 elementary and junior high schools and 1 high school with 9,029 pupils and 397 teachers and principals. Instruction is given in English

Economy and Finance. In 1949, 3,000 out of the 8,700 employable Guamanians worked for U.S. government establishments. There are about 80 mi. of paved highways on Guam and about 60 mi. of improved secondary roads. There are no railways, but 5 military airfields.

During the fiscal year ending June 30, 1949, Guam's expenditures amounted to $3,288,991, of which $1,082,380 came from U.S. appropriations, $1,985,824 from local revenues and the balance from the sale of surplus war materials and certain special funds

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Samoa, American. The Samoan Islands are about 2,700 mi. east of Australia and 2,200 mi. south of the Hawaiian Islands. American Samoa consists of the inhabited islands of Tutuila, Tau, Olosega, Ofu and Aunuu, and the uninhabited coral atoll, Rose Island. Swain's Island, 210 mi. northwest of Tutuila, was made in 1925 a part of American Samoa which is an unorganized U.S. possession governed by a naval officer appointed by the president.

On Feb. 25, 1948, a bicameral legislature was established in place of the old one, the annual *Fono*. The House of

Representatives consists of 54 members, popularly elected for two-year terms; the House of Alii is composed of the 12 persons who hold the highest-ranking titles in American Samoa. The legislature has only advisory powers. The governor also has an advisory council consisting of from five to seven Samoans. The judiciary consists of a high court, district courts and village courts. Each of the three administrative districts has a native governor appointed by the governor of American Samoa.

Education. In 1949 there were 46 public schools and 7 private schools. Total enrolment was 5,117 and there were 139 teachers, English being the language of instruction. About 94% of the population was literate according to the 1940 census.

Economy and Finance. Principal crops, with estimated annual production (metric tons): copra 1,725; breadfruit 7,700; bananas 19,492; taro 2,900. Imports (1948-49) $886,701, exports $459,056 Revenues during the year ending June 30, 1949, amounted to $422,739 and U.S. appropriations for American Samoa to $55,000, expenditures totalled $626,775.

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UNIVERSITIES AND COLLEGES. In 1949 pressure of student numbers and shortages of staff, accommodation and equipment harassed universities everywhere, although perhaps not so badly as in the previous year. There were many encouraging reports of buildings being erected or repaired and equipment accumulated; nevertheless, the leeway was still terrific.

International Developments. International discussion and interchange of staff and students continued to increase. As examples of the first may be cited the massive convention on the social implications of scientific progress held in April at the Massachusetts Institute of Technology; the first international congress of biochemistry, held at Cambridge, England, in August; and the conference on the educational problems of special cultural groups held by Columbia university in association with the University of London in New York in August-September.

A potentially most important development resulted from a resolution, unanimously carried at the Congress of Europe held at The Hague in 1948, to establish a European Cultural centre. This proposal was later modified to one for a "College of Europe" at which selected post-graduate students could receive a wide and deep course in European affairs qualifying them, *inter alia*, for responsible posts on permanent secretariats of European institutions. In September-October the European movement organized at Bruges, Belgium, a three weeks' experimental session, attended by 22 students of 11 nationalities. It was proposed to establish the college permanently in 1950.

The most notable development in interchange was the start of the Fulbright scheme, under which some 1,300 university teachers and students left the United States for teaching, research or study abroad, and an approximately equal number entered American institutions. U.N.E.S.C.O. sponsored many travelling fellowships and university exchanges. The British Council, in response to invitations from governments or universities of 11 countries, made 55 awards to graduates for study abroad for periods of from four months to one year. India and Pakistan reported larger numbers of university students studying overseas than ever before. Exchanges arranged by individual universities and university bodies were numerous. Some of the most fruitful were extra-curricular, as for example the student congress at Lund, Sweden, the British students' debating tour of India, Pakistan and Ceylon and the tour by Oxford musicians to French universities.

Great Britain. In July-August over 500 foreign students, most from the United States, attended the university summer schools (first organized on a large scale in 1948) held at Oxford, London, Edinburgh, Southampton and Stratford-on-Avon. In September the first party of American graduate students (125) and professors (35) selected to study and lecture in Great Britain under the provisions of the Fulbright act arrived. At that date 140 British persons had received Fulbright grants for research or teaching in American institutions.

In April the London University Institute of Education received a grant from the Imperial Relations trust enabling it to appoint in each of the academic years 1949-52 two fellows from each of the dominions of Australia, Canada, South Africa and New Zealand. The fellowships, tenable for a year, were to go to experienced educators likely to occupy important positions in their educational service.

In February and March the chancellor of the exchequer announced revised salary limits for medical and non-medical teaching staffs in universities.

Because of the forthcoming replacement in England and Wales of the School and Higher School certificates by the General Certificate of Education, it became necessary for the universities to re-define their minimum academic requirements for entrance. In January the Committee of Vice-Chancellors and Principals proposed that:

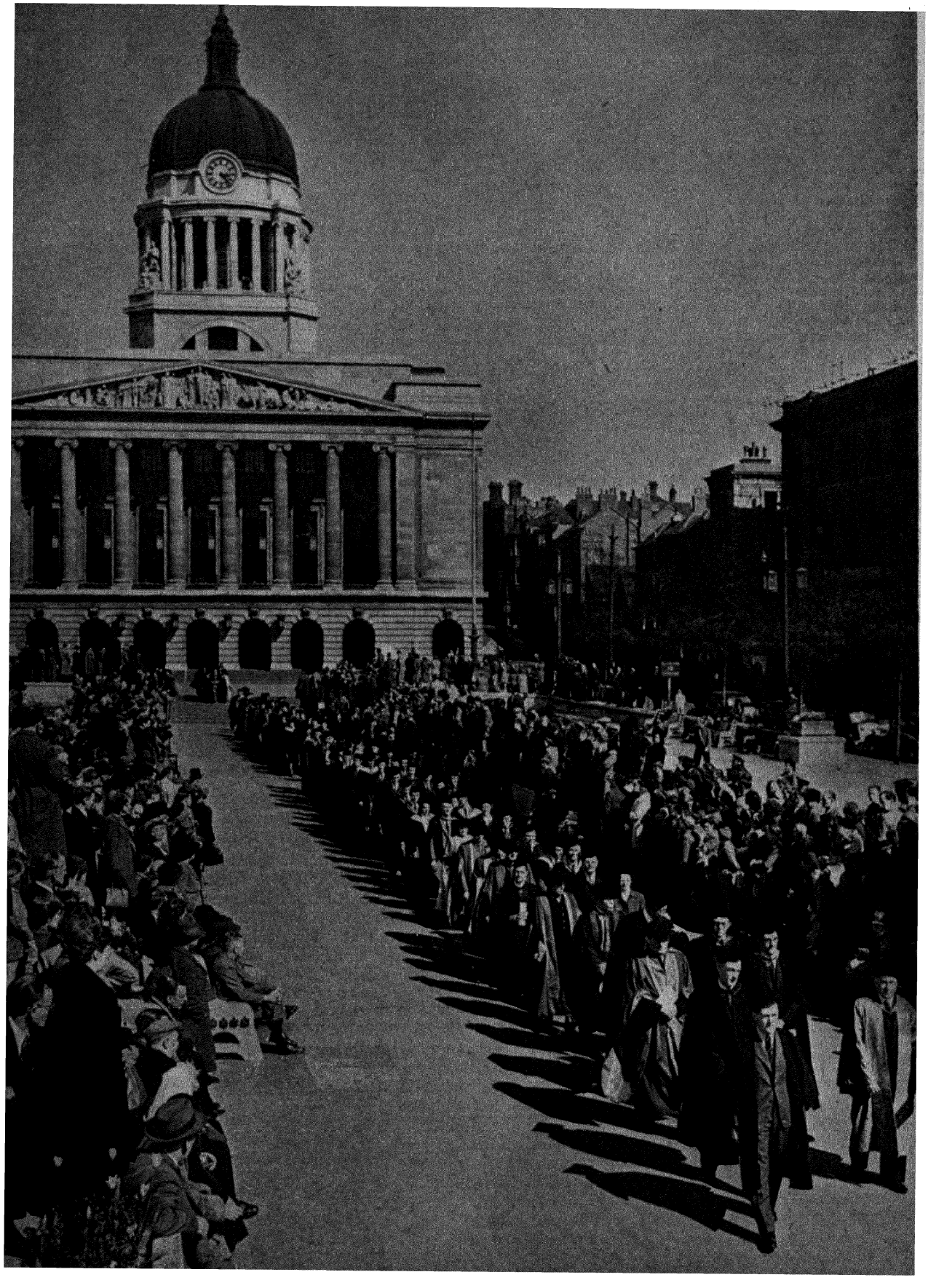
1. A candidate must pass (in the G C.E examination) in English language and in either four or five other subjects
2. The subjects must include (a) a language other than English and (b) either mathematics or an approved science
3. At least two of the subjects must be passed at the advanced level
4. Candidates who offer only four subjects in addition to English language must pass at one and the same sitting in two subjects at the advanced level and in one other subject not related to the subjects offered at the advanced level.

By mid-1949 all the universities except Oxford and Cambridge, which had not made public their requirements, had accepted this formula.

At the request of both parties, the secretary of state for Scotland in February instituted an inquiry into the organization of university education at Dundee University college and its relationship with the University of St. Andrews—matters that had been the cause of controversy ever since the Universities (Scotland) act, 1889, provided that Dundee (founded 1881) should be affiliated to St. Andrews (founded 1411). The investigators' report, published in August, rejected both the St. Andrews proposal for a university organized in four colleges (of which Dundee would be one) and the Dundee proposal for an expansion of the University court to give Dundee equal representation with St. Andrews while at the same time retaining its own College council. It recommended the abolition of the governors, council and education board of Dundee, and the bringing of the whole university under a single University court.

In April was published *The Crisis in the University*, by Sir Walter Moberly, perhaps the most important study of the functions of the university to appear in Britain since Newman's *The Idea of a University* (1852). Written by the chairman of the University Grants committee, it represented the fruits of prolonged discussions among Christian university teachers and others, promoted by the Student Christian movement and the Christian Frontier council.

In April was celebrated the bicentenary of the Radcliffe library, Oxford; in May the centenary of Bedford college, University of London, the country's oldest university college for women, and the jubilee of Ruskin college, Oxford, Britain's earliest residential college for working class students; in September the centenary of the opening of Queen's college, now the Queen's university, Belfast. In April the foundation stone was laid of permanent buildings for Nuffield college, Oxford. In September a National College of Music and Drama for Wales was opened in Cardiff castle, donated by Lord Bute to the city of Cardiff.



In April the Duke of Edinburgh was installed as chancellor of the University of Wales, and in May Lord Trent as chancellor of Nottingham university. In June a development fund of £1,000,000 was launched for the latter university (created 1948). (*See* also CAMBRIDGE UNIVERSITY; LONDON UNIVERSITY; OXFORD UNIVERSITY.)

Commonwealth. In June the first meeting of the executive council of the Association of the Universities of the British Commonwealth was held at Deep Cove, Nova Scotia. It was attended by 16 vice-chancellors (or deputies) representative of all the dominions, the West Indies and other colonies. Freer interchange between universities was the main topic of discussion.

In August the British Council announced that 39 awards had been made for 1949 under the scheme established by the 1948 Universities' congress to facilitate interchange of university teachers and students between the United Kingdom and the other commonwealth countries. The scheme comprised three types of grants: to university teachers on study leave, post-graduate research workers holding research grants who propose to study at another university for at least six months, and distinguished scholars invited to universities for short visits.

Australia. In September the minister for defence (in charge of scientific and industrial research) announced that from the beginning of 1951 the commonwealth government would award annually 3,000 scholarships to enable selected students to undertake university, technical college and other approved professional courses. The scheme, estimated to cost £A900,000 a year, would replace the existing postwar scheme.

On Oct. 24 the foundation stones were laid of the first three buildings of the Australian National university at Canberra: the John Curtin School of Medical Research, the School of Physical Sciences, and University house, a residential college to accommodate the staff and 100 students. The university which was in the first instance to be solely a post-graduate centre for research in medicine, the physical and social sciences and Pacific studies, was expected to start work early in 1951.

Canada. Concern continued lest the greatly increased number of students and the persistent demand that the universities expand their scope should lead to a permanent lowering of academic standards, especially in the humanities. It was, however, asserted that the number of ill-qualified entrants was proportionately less in 1949 than in previous postwar years.

A Canadian-British Education committee was established with headquarters in London, England, to encourage British boys and girls to take university courses in Canada, in the first instance especially at McGill, which in 1948 offered 100 places a year.

India. In Nov. 1948 the government set up a commission to inquire into conditions and prospects of university education and advanced research in India and to recommend a constructive policy related to the needs of the country.

The University of Rajputana, created in 1947 by a federation of the colleges in the larger states of Rajasthan, held its first convocation for the conferment of degrees.

On November 25, the Thomason College of Engineering, Roorkee, was raised to university status and became India's first engineering university. Founded in 1847, it was the oldest institution of its kind in the east and numbered among its former students such distinguished engineers as Sir William Garstin and Sir William Willcocks of Iraqi and Egyptian fame. Its change of status was intended to herald a general broadening of the curriculum and expansion of laboratory facilities to help meet the country's growing technological needs.

The procession from the Nottingham council chamber to the Albert Hall, May 3, 1949, for the installation of Lord Trent as first chancellor of Nottingham university.

South Africa. In pursuance of its policy of *apartheid* the government announced that it would not renew state grants to non-European medical students at the University of the Witwatersrand after 1950, because it expected that by then the non-European medical faculty at Natal university (where *apartheid* is practised) would be opened. Later the prime minister, Dr. Malan, announced the government's intention to introduce *apartheid* at the Capetown and Witwatersrand universities The National Union of South African Students re-affirmed its belief in the academic and cultural equality of all students, the Afrikaanse Studentebond its belief in the essential difference between white and coloured races.

In March the ceremonial inauguration of Natal university (incorporated 1948) took place. In August an anonymous European offered £100,000 to endow a chair of Bantu studies, and establish and maintain a native library and museum at the university. In April bequests totalling £100,000 were announced in the will of Mr. Bernard Price for the benefit of the Institute of Geophysical Research and the Palæontological Foundation, Witwatersrand university, both originally donated by him

New Zealand. A micro-chemical laboratory, the first in the country, was installed at Dunedin in the University of Otago. Dr. T. S. Ma, who was in charge of the micro-chemical laboratory at Chicago university during World War II, was appointed head.

British East Africa. In January the Makerere College act reconstituted the college to enable it to provide facilities throughout the East African territories of Uganda, Kenya, Tanganyika and Zanzibar for higher education, professional training and research, either directly or through affiliated schools and institutes. The government and administration of the college were vested in an autonomous council. In 1949, 220 students were in residence.

British West Africa. During the first academic year of the university college of the Gold Coast, Achimota, faculties of arts, science and economics were functioning, and research on a dozen Gold Coast languages was begun. A theological faculty was started in the second year. The college opened in Oct. 1948 with 100 students and was planned to increase to 750. Preliminary designs for permanent buildings were submitted late in 1949. Among gifts to the college were £900,000 from the Gold Coast Cocoa Marketing board and £200,000 from the Nigerian Cocoa Marketing board.

During the academic year 1948-49 the university college (incorporated 1948) at Ibadan, Nigeria, increased the number of its students from 104 to 220 and of staff from 13 to 44. Faculties of arts, science and medicine were functioning; extra-mural courses were being developed and research had begun. The college, intended to become the university of West Africa, was controlled and administered by an autonomous council The Nigerian government supported the college on the five-year block grant system, and started its endowment fund with a first donation of £250,000.

In February the Legislative council of Sierra Leone approved the proposal, made by the secretary of state for the colonies, that Fourah Bay college, the only establishment in the colony for providing education beyond secondary, should be created a university college with three departments: a university department with schools in arts and commerce, a teacher-training department and a technical and vocational training department.

Malaya. In March and April ordinances establishing the University of Malaya were made. In April the chancellor, Malcolm Macdonald, high commissioner for the far east, announced that the British government had allocated

£1,000,000 from the Colonial Development and Welfare fund to the university's building fund, and appealed for donations to its endowment fund. Foundation day was held on Oct. 8, when the chancellor was installed.

British West Indies. In January the British secretary of state for the colonies announced that the King had granted a royal charter to the University college of the West Indies, accepted the office of visitor and appointed Princess Alice, Countess of Athlone, the first chancellor. The college began teaching in the faculty of medicine in Oct. 1948, and in the faculty of natural science a year later. Thirty-two students were admitted for the 1948-49 session, and another 42 for 1949-50. In May the contract was placed for the main building scheme for the college and teaching hospital. Until permanent buildings are available the college would be housed in temporary huts on the permanent site of 700 ac. at Mona near Kingston, presented by the government of Jamaica.

United States. By the beginning of the year reciprocal agreements under the Fulbright act had been signed by 13 countries. They provided for payment of travel expenses, tuition fees and maintenance grants to Americans going to universities abroad and the cost of travel for foreigners coming to U.S. institutions. Equal numbers of students were exchanged. The schemes applied to professors, students (both graduate and undergraduate) and school teachers, except where existing exchange schemes were functioning satisfactorily. In the autumn 1,300 U.S. students and teachers left under the scheme.

In the spring, following the dismissal by Washington university of two professors because of membership of the Communist party, there was widespread public discussion whether Communists should be allowed to teach in universities and colleges. In April, after a student demonstration against a bill proposing to impose an oath of loyalty upon all state teachers, the government of Illinois set up a committee to investigate alleged Communist influences in Chicago university. In the academic year 1948-49 universities and colleges graduated the highest number of students in the history of higher education in the United States. Some 423,000 students received degrees, 95% more than in 1939-40, the peak prewar year. First degrees totalled 366,634, second degrees 50,827 and 5,293 doctorates were awarded.

On Oct. 20 Smith college, Massachusetts, celebrated the 75th anniversary of its opening. Honorary degrees were conferred on 12 distinguished women including Princess Wilhelmina, former queen of the Netherlands, and Mrs. Eleanor Roosevelt. Radcliffe, the women's college affiliated to Harvard university, celebrated its 70th birthday. In Dec. 1948 Miss H. M. Cam, installed as Radcliffe professor of English history, became the first women member of the Harvard faculty. In October Harvard law school was opened to women.

Notable benefactions included a sum of over $8 million from the Samuel H. Kress foundation to New York university's Bellevue Medical centre; a sum of $1,500,000 from Myron Taylor to Cornell university; and a block-printed set of the Kagyur (Tibetan sacred books) from the Dalai Lama to Yale university.

On Aug. 10 died Edward Lee Thorndike, internationally famous for his brilliant contributions to educational psychology. From 1897 to 1940 he was on the staff of Teachers' college, Columbia university, from 1904 with professorial rank. His numerous published works included *The Measurement of Intelligence* (1926) and *The Fundamentals of Learning* (1932).

Europe. *Czechoslovakia.* Early in 1949 reliability tests for university students took place. In March the ministry of education announced that of 47,000 students called for examination, 6,370 had failed, including 2,400 who did not present themselves before the "reliability" committees and had been expelled from the universities. It was not stated on what grounds, but the ministry denied that the tests were a means of political persecution. It was further stated that expelled students might be re-admitted on evidence of good work in the employments to which they had been directed. Seven hundred "workers" were admitted to the universities after special eight months' courses in place of a secondary school education.

In the autumn the universities were put under the control of a state council, whose powers included the appointment of the teaching staff. Individual study was finally abolished and the study group system made universal. The object of the law was stated to be to produce a "highly qualified and politically conscious intelligentsia." The secretary general of the Slovak Communist party declared that Marxist-Leninist science was the fundamental line of all scientific and educational activities in the universities.

In October Dr. Jiřina Otáhalová-Popelová was appointed rector of the Palacký university, Olomouc—the first woman to hold such a post in Czechoslovakia.

France. In Aug. 1948 the minister of education made compulsory an *année propédeutique*, that is, a year of study beyond the *baccalauréat*, with a further examination at the end, for all students wishing to enter a university. The immediate cause of this innovation was the overcrowded state of the universities; but the fundamental reason, urged since the 1930s, was the character of the *baccalauréat* curriculum, which, it was argued, demanded such an amassing of factual knowledge as to preclude the absorption of culture. It was not possible by the end of the first year's experiment to measure its success owing to the shortage of university teachers.

Germany. In March the Technical university of Berlin celebrated its 150th anniversary. It began as an architectural college, developed into a technical high school and was granted university status in 1946. Two new people's universities were opened, one at Hustadt, near Celle, and the other at Landau, near Kassel. That at Landau was the first of its kind in *Land* Hesse

In June a federation of German university women was founded, with headquarters at Hamburg. The former federation was suppressed by Adolf Hitler.

Greece. Economic difficulties gravely affected the universities. In March the ministry of finance cut the state grant to Salonika university by 620 million drachmae. The senate replied that this would make it impossible for the university to operate efficiently; and as protest a ten-day lock-out of the faculties of mathematics and physics, medicine, agriculture and forestry was staged.

Sweden. In October Madame Gerd Enequist was installed as professor of Geo-Culture at Uppsala university; she was the first woman to occupy a professorial chair in this 500-year old university.

Switzerland. Geneva university established, within the faculty of social and economic science, an *Institut Universitaire d'Administration Maritime*, claimed to be the first of its kind. It offered a three-year course, of which the third year is spent on board ship.

Yugoslavia. Organizational and academic changes were carried out in Belgrade university. The medical and technical faculties were separated from it to form the Medical Great school and the Technical Great school respectively, each with university status. Mathematics and natural sciences were separated from the philosophical faculty to form new faculties. The study of Marxism-Leninism was introduced as a compulsory subject in the philosophical, legal, and economic faculties. In March a conference was held at Ljubljana of all heads of philosophical faculties to decide

upon the philosophical line to be adopted in teaching. The legal, philosophical, and technical high schools of Skopje were united to form Skopje university.

Asia. *China.* First-hand unofficial information received during 1949 suggested that conditions in universities were generally better than might have been expected, and in particular that staff and students felt more secure. Some universities and colleges fled before the Communist advance, but others, such as the Yenching university, Peking, Nanking university and the Central China university reported that work was progressing in a very satisfactory fashion. The Communist attitude was stated to be that opposition to their ideology would bring no physical sanctions but militate against promotion in university or professional life. In October, however, Peking radio reported that a committee for higher education had drawn up new curricula for universities and colleges in north China which made dialectical materialism and the "new democracy" obligatory studies for all students, and political economy for students of arts and social sciences. Courses in Marxism and Leninism were to replace Kuomintang teaching, and Russian was to be studied.

Palestine. Radical changes in the structure of the Hebrew university of Jerusalem were planned with the aim of making it a centre of culture for Jews throughout the world. Among these were the establishment of faculties of law and medicine and the introduction of a B.A. course. (The existing highly specialized courses led to an M.A. as the first degree.)

Professor S. Brodetsky, University of Leeds, England, was elected president in succession to the late Dr. J. L. Magnes.

South America. *Argentina.* On June 20 President Péron announced the abolition of all university fees.

Venezuela. Because of the great increase in the number of students (there were over 4,000 in the Central university of Caracas, four times as many as in 1939) it was necessary to appoint temporarily a number of foreign professors. Native teachers were being trained to take their places as soon as possible. (H. C. D.)

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£1,000,000 from the Colonial Development and Welfare fund to the university's building fund, and appealed for donations to its endowment fund. Foundation day was held on Oct. 8, when the chancellor was installed.

British West Indies. In January the British secretary of state for the colonies announced that the King had granted a royal charter to the University college of the West Indies, accepted the office of visitor and appointed Princess Alice, Countess of Athlone, the first chancellor. The college began teaching in the faculty of medicine in Oct. 1948, and in the faculty of natural science a year later. Thirty-two students were admitted for the 1948-49 session, and another 42 for 1949-50. In May the contract was placed for the main building scheme for the college and teaching hospital. Until permanent buildings are available the college would be housed in temporary huts on the permanent site of 700 ac. at Mona near Kingston, presented by the government of Jamaica.

United States. By the beginning of the year reciprocal agreements under the Fulbright act had been signed by 13 countries. They provided for payment of travel expenses, tuition fees and maintenance grants to Americans going to universities abroad and the cost of travel for foreigners coming to U.S. institutions. Equal numbers of students were exchanged. The schemes applied to professors, students (both graduate and undergraduate) and school teachers, except where existing exchange schemes were functioning satisfactorily. In the autumn 1,300 U.S. students and teachers left under the scheme.

In the spring, following the dismissal by Washington university of two professors because of membership of the Communist party, there was widespread public discussion whether Communists should be allowed to teach in universities and colleges. In April, after a student demonstration against a bill proposing to impose an oath of loyalty upon all state teachers, the government of Illinois set up a committee to investigate alleged Communist influences in Chicago university. In the academic year 1948-49 universities and colleges graduated the highest number of students in the history of higher education in the United States. Some 423,000 students received degrees, 95% more than in 1939-40, the peak prewar year. First degrees totalled 366,634, second degrees 50,827 and 5,293 doctorates were awarded.

On Oct. 20 Smith college, Massachusetts, celebrated the 75th anniversary of its opening. Honorary degrees were conferred on 12 distinguished women including Princess Wilhelmina, former queen of the Netherlands, and Mrs. Eleanor Roosevelt. Radcliffe, the women's college affiliated to Harvard university, celebrated its 70th birthday. In Dec. 1948 Miss H. M. Cam, installed as Radcliffe professor of English history, became the first women member of the Harvard faculty. In October Harvard law school was opened to women.

Notable benefactions included a sum of over $8 million from the Samuel H. Kress foundation to New York university's Bellevue Medical centre; a sum of $1,500,000 from Myron Taylor to Cornell university; and a block-printed set of the Kagyur (Tibetan sacred books) from the Dalai Lama to Yale university.

On Aug. 10 died Edward Lee Thorndike, internationally famous for his brilliant contributions to educational psychology. From 1897 to 1940 he was on the staff of Teachers' college, Columbia university, from 1904 with professorial rank. His numerous published works included *The Measurement of Intelligence* (1926) and *The Fundamentals of Learning* (1932).

Europe. *Czechoslovakia.* Early in 1949 reliability tests for university students took place. In March the ministry of education announced that of 47,000 students called for examination, 6,370 had failed, including 2,400 who did not present themselves before the "reliability" committees and had been expelled from the universities. It was not stated on what grounds, but the ministry denied that the tests were a means of political persecution. It was further stated that expelled students might be re-admitted on evidence of good work in the employments to which they had been directed. Seven hundred "workers" were admitted to the universities after special eight months' courses in place of a secondary school education.

In the autumn the universities were put under the control of a state council, whose powers included the appointment of the teaching staff. Individual study was finally abolished and the study group system made universal. The object of the law was stated to be to produce a "highly qualified and politically conscious intelligentsia." The secretary general of the Slovak Communist party declared that Marxist-Leninist science was the fundamental line of all scientific and educational activities in the universities.

In October Dr. Jiřina Otáhalová-Popelová was appointed rector of the Palacký university, Olomouc—the first woman to hold such a post in Czechoslovakia.

France. In Aug. 1948 the minister of education made compulsory an *année propédeutique*, that is, a year of study beyond the *baccalauréat*, with a further examination at the end, for all students wishing to enter a university. The immediate cause of this innovation was the overcrowded state of the universities; but the fundamental reason, urged since the 1930s, was the character of the *baccalauréat* curriculum, which, it was argued, demanded such an amassing of factual knowledge as to preclude the absorption of culture. It was not possible by the end of the first year's experiment to measure its success owing to the shortage of university teachers.

Germany. In March the Technical university of Berlin celebrated its 150th anniversary. It began as an architectural college, developed into a technical high school and was granted university status in 1946. Two new people's universities were opened, one at Hustadt, near Celle, and the other at Landau, near Kassel. That at Landau was the first of its kind in *Land* Hesse.

In June a federation of German university women was founded, with headquarters at Hamburg. The former federation was suppressed by Adolf Hitler.

Greece. Economic difficulties gravely affected the universities. In March the ministry of finance cut the state grant to Salonika university by 620 million drachmae. The senate replied that this would make it impossible for the university to operate efficiently; and as protest a ten-day lock-out of the faculties of mathematics and physics, medicine, agriculture and forestry was staged.

Sweden. In October Madame Gerd Enequist was installed as professor of Geo-Culture at Uppsala university; she was the first woman to occupy a professorial chair in this 500-year old university.

Switzerland. Geneva university established, within the faculty of social and economic science, an *Institut Universitaire d'Administration Maritime*, claimed to be the first of its kind. It offered a three-year course, of which the third year is spent on board ship.

Yugoslavia. Organizational and academic changes were carried out in Belgrade university. The medical and technical faculties were separated from it to form the Medical Great school and the Technical Great school respectively, each with university status. Mathematics and natural sciences were separated from the philosophical faculty to form new faculties. The study of Marxism-Leninism was introduced as a compulsory subject in the philosophical, legal, and economic faculties. In March a conference was held at Ljubljana of all heads of philosophical faculties to decide

upon the philosophical line to be adopted in teaching. The legal, philosophical, and technical high schools of Skopje were united to form Skopje university.

Asia. *China.* First-hand unofficial information received during 1949 suggested that conditions in universities were generally better than might have been expected, and in particular that staff and students felt more secure. Some universities and colleges fled before the Communist advance, but others, such as the Yenching university, Peking, Nanking university and the Central China university reported that work was progressing in a very satisfactory fashion. The Communist attitude was stated to be that opposition to their ideology would bring no physical sanctions but militate against promotion in university or professional life. In October, however, Peking radio reported that a committee for higher education had drawn up new curricula for universities and colleges in north China which made dialectical materialism and the "new democracy" obligatory studies for all students, and political economy for students of arts and social sciences. Courses in Marxism and Leninism were to replace Kuomintang teaching, and Russian was to be studied.

Palestine. Radical changes in the structure of the Hebrew university of Jerusalem were planned with the aim of making it a centre of culture for Jews throughout the world. Among these were the establishment of faculties of law and medicine and the introduction of a B.A. course. (The existing highly specialized courses led to an M.A. as the first degree.)

Professor S. Brodetsky, University of Leeds, England, was elected president in succession to the late Dr. J. L. Magnes.

South America. *Argentina.* On June 20 President Péron announced the abolition of all university fees.

Venezuela. Because of the great increase in the number of students (there were over 4,000 in the Central university of Caracas, four times as many as in 1939) it was necessary to appoint temporarily a number of foreign professors. Native teachers were being trained to take their places as soon as possible. (H. C. D.)

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dropped 25%. In October, following Argentina's lead, the peso was devalued. The new buying rate was fixed at 1·519 pesos to the dollar and the selling rate at 1·90 to the dollar. Other rates for special trade items were established.

(J. McA.)

Education. Schools (1947). state 1,635, pupils 192,804, teachers 5,735; rural, pupils 52,000. University of the Republic (1940) students 2,670, teaching staff 211

Agriculture. Main crops ('000 metric tons, 1948) wheat 518, maize 99; barley 25, oats 49; linseed (flax grown for seed only) 117; sunflower seed 60, groundnuts 13; tobacco (metric tons, 1947) 907. Livestock ('000 head). cattle (May 1946) 6,834, sheep (May 1948) 22,000; horses (May 1946) 575 Wool production (on greasy basis, 1948-49) 73,000 metric tons Meat exports (metric tons) 36,000 in 1947, 58,400 in 1948

Industry. Establishments utilizing local raw materials (textile factories, tanneries and industrial and edible-oil refineries, 1948)· value of total production 913 million pesos; number of persons employed 168,400.

Foreign Trade. (Million U S $) Imports (1948) 201·5, (1949, six months) 87 3; exports (1948) 178·9, (1949, six months) 91·8 Main imports (1948) machinery and vehicles (28%), textiles (8%), petroleum and products (6%) Main exports wool (37%), meat (25%), hides and skins (12%) Leading customers the U S (28%), the U K. (18%), Belgium (9%), Netherlands (7%) and Italy (7%); leading suppliers. the U.S. (34%), the U.K. (13%) and Brazil (10%).

Transport and Communications. Roads (1948) 26,000 mi of which 3,051 mi. paved. Licensed motor vehicles (Dec. 1948): cars 36,200, commercial vehicles 15,700. Railways· 1,874 mi , freight carried (1948)· about 1 8 million metric tons. Shipping (July 1948): merchant vessels of 100 tons and upwards 48, gross tonnage 64,054 Telephones (Dec 1947) instruments 71,732 Wireless licences (Dec. 1947) 230,000

Finance and Banking. (Million pesos) Budget (1949 est) revenue 204·5, expenditure 223 3. National debt (Aug 1949, in brackets Aug. 1948). 787·6 (725·1). Currency circulation (Sept 1949; in brackets Sept 1948) 230 (199) Bank deposits (Sept 1949, in brackets Sept. 1948): 384 (334) Gold reserve (July 1949, in brackets July 1948)· U.S $ million 161 (198) Monetary unit· *peso* with controlled exchange rates (in brackets before Sept 18, 1949) of 5·32 (7 65) pesos to the £ for selling and 4·25 (6·12) pesos to the £ for buying

U.S.S.R.: *see* Union of Soviet Socialist Republics.

VARGA, EVGHENY SAMUILOVICH, Soviet economist (b. Budapest, Hungary, 1887), was educated at the Universities of Budapest, Berlin and Paris. In 1906 he joined the Hungarian Social Democratic party. On March 21, 1919, he was appointed people's commissar of finance in the Béla Kun Communist government. On Aug. 1 of the same year he fled to Moscow. He became a Soviet citizen, director of the Moscow Institute of World Economics and World Politics, editor of a periodical *World Economics and World Politics*, and a member of the Soviet Academy of Science. Between the two World Wars he wrote many books on the economic development of capitalist states and on the history and theory of economic crises. In his *Changes in the Capitalist Economy Resulting from the Second World War* published in 1945 he maintained that capitalist countries in general, and the U.S. and Great Britain in particular, were not facing an immediate crisis, that capitalist systems were capable of planning a wartime economy and that armed conflict between the U.S. and Great Britain competing for world markets was not possible—views regarded as heretical by Andrey A. Zhdanov and his pupil Nikolay A. Voznesensky. At the beginning of 1948 the Institute of World Economics and World Politics was absorbed by the Institute of Economics which was directly under Voznesensky's State Planning commission and Varga's journal was replaced by a new one, *Economic Questions*. Varga, however, was appointed a member of the editorial board of the new periodical. In Oct. 1948 his book was discussed at a special session of the Institute of Economics and, defending his views, he suggested that a scrutiny of facts was of greater importance than discussions of terminology. Professor K. V. Ostrovitianov, who presided, recommended that "comrade Varga should drop the attitude of an insulted priest of science" and attempt honestly to examine his mistakes and correct them by producing new works in accord with the requirements of Marxist-Leninist science. Varga recanted his views in the April 1949 issue of *Economic Questions*.

VARNISHES: *see* Paints and Varnishes.

VATICAN CITY STATE. A sovereign independent state, situated upon the Vatican hill in the city of Rome, established by the Lateran treaty between the Holy See and Italy on Feb. 11, 1929. The Pope is the sovereign. Area: 0·5 sq. mi., excluding the papal estate of Castel Gandolfo and the basilicas of St. John Lateran, St. Paul's-Outside-the-Walls and St. Mary's Major which also belong to the Vatican City state. Pop. (1948 est.): 800. Governor, Marchese Camillo Serafini.

The main preoccupation of the Vatican City state during 1949 was the preparation for the Holy Year of 1950, which, proclaimed by Pope Pius XII on Ascension day, May 26, in the bull *Jubilaeum Maximum*, was inaugurated on Christmas Eve. The main responsibility for the arrangements was entrusted to Mgr. Valerio Valeri, wartime nuncio to France, as chairman of the Holy Year Central committee.

Pope Pius XII, whose sacerdotal golden jubilee on April 2 followed closely after the 10th anniversary of his coronation, broadcast to the world on Dec. 23 a long allocution in which he spoke of the hopes he placed in the Holy Year. Other important addresses by the Pope were that delivered at the secret consistory of Feb 14, denouncing the trial and imprisonment of Cardinal József Mindszenthy, and that broadcast to the German *Katholikentag* on Sept. 4; but the year saw only one encyclical letter, that on the future of Palestine published on Good Friday, April 15, and entitled *Redemptoris Nostri*.

Important as a moral ruling was the Pope's rejection of artificial insemination when he addressed the 4th International congress of Catholic doctors on Sept. 29, and important also were the careful considerations of "juridical positivism" contained in three complementary addresses which the Pope delivered in November, the first, on Nov. 6, to a conference of Italian Catholic lawyers; the second, on Nov. 13, to the members of the Tribunal of the Rota, and the third, on Nov. 17, to a group of U.S. senators.

There were two canonizations during the year: those of the French B. Jeanne de Lestonnac (a niece of Montaigne) on May 15 and the Italian B. Maria Rossello on June 12.

Diplomatic relations between the Holy See and Persia were established in June, and between the Holy See and India in July.

Among the Pope's visitors during the year were a delegation of members of both houses of the British parliament, headed by the speaker, on Jan. 11; Anthony Eden, on March 29; Sir Stafford and Lady Cripps on May 3; and Princess Margaret on May 10. In the latter part of the year there was a series of parties of members of the U.S. congress.

The College of Cardinals lost Cardinal Emmanuel Suhard, Archbishop of Paris, who died on May 30, and Cardinal Francesco Marmaggi, prefect of the Sacred Congregation of the Council, who died on Nov. 2 and was succeeded by Cardinal Giuseppe Bruno. Cardinal Adeodato Piazza was created Cardinal Bishop of Sabina and Poggio Martito.

Finally, mention should be made here of the historic decree of the Sacred Congregation of the Holy Office, of which the Pope himself is prefect, which appeared in the *Acta Apostolicae Sedis* on July 13. This laid it down that Catholics cannot join or show favour to the Communist party in any part of the world and cannot publish, read, disseminate or contribute to Communist newspapers, periodicals, books or leaflets, under pain of excommunication. (*See* also Pius XII; Roman Catholic Church.) (M. Dk.)

VEGETABLE OILS AND ANIMAL FATS. Preliminary reports indicated that the total quantity of vegetable oils and oilseeds available for distribution as oil in 1949 probably amounted, in terms of oil, to about 4% more than the 1948 total and about 7% more than the prewar average. World exports of seeds and oils, in terms of oil, were higher than in 1948 but they were again well below the prewar level.

Groundnut production in 1949 was not expected greatly to exceed the record output of 1948, which was equivalent to about 1 7 million tons of oil. Output fell in the United States, while China's production expanded only slightly owing to the disturbances in that country. Indian output, on the other hand, showed a decided increase. Official figures of production under the British East African groundnut scheme were not available; it was, however, announced that about 50,000 ac of groundnuts and sunflower seeds had been planted for the 1949 harvest. In British West Africa, seasonal purchases were slightly below the 1947-48 level. Clearance work began in Senegal during March 1949, under a scheme to increase French West African groundnut production by methods of mechanical cultivation. Exports of groundnuts from India showed a further decline in 1948-49, but shipments of groundnut oil were heavier than in the previous year. Groundnut exports from British and French West Africa in 1949 were again fairly large.

Forecasts for cottonseed indicated a further rise in total production in 1949-50 with increased output in the United States and India. Exports of cottonseed in 1949 showed an improvement on those of the previous year, but were again well below the prewar level.

Compared with 1948, production of linseed in the United States decreased by more than 20% in 1949 and there was a much greater fall in Canadian output. Slightly increased production in Argentina and elsewhere was insufficient fully to offset the decline in North America and it was estimated that world production had fallen by about a tenth. Exports of seed improved considerably in 1949 but shipments of oil were smaller than in 1948.

Reports on other oilseed crops again indicated no significant change in the total production of soya bean, rapeseed, sesame and castor. No information was available concerning sunflower production in the U.S.S.R., but it was estimated that plantings in Argentina—the second most important producing country—exceeded the record acreage of the previous year.

Copra exports from the Philippine Islands were moderately heavy in 1949, although again much lighter than in the peak year 1947. Shipments from Malaya and Indonesia, on the other hand, were the highest recorded by those countries after World War II. There were increased exports of coconut oil in 1949; shipments from the Philippines were considerably higher than in 1948 but they were still well below the prewar level.

Purchases of palm kernels in Nigeria and Sierra Leone were heavier in 1948-49 than in the previous season, and palm oil purchases in Nigeria also increased. Malayan production of both kernels and oil rose in 1949. Shipments from the Belgian Congo were again important.

The 1948-49 output of edible olive oil in the Mediterranean region was estimated at only 362,000 tons, a decrease of about 68% compared with the previous season. Exports in 1949 were on a reduced scale.

Imports of the main kinds of oilseeds into the United Kingdom were considerably heavier in 1949 than in the previous year, only castor bean imports being below the 1948 level. There was very little alteration in supplies of vegetable oils.

Production of animal fats improved in 1949, although available supplies were still below the prewar level. The 1948-49 Australian and New Zealand production figures for butter showed an increase compared with 1947-48 and output rose substantially in 1949 in both Denmark and the Netherlands. A slight fall in Canadian production was more than offset by increased output in the United States, where lard and tallow production also improved. Whaling operations again came under international regulation in 1948-49 and whale oil production showed only a small increase over that of the previous season. (D. M. T.)

United States. The domestic production of fats and oils in the U.S., including the oil equivalent of exported seeds, in 1949 was forecast at a new record of about 12,010 million lb., compared with 11,786 million lb. in 1948 and a prewar level of 8,696 million lb. Domestic consumption was smaller in 1949 than in 1948 and the excess of production over consumption rose to a new record of 1,400 million lb.

Total U S. butter production in 1949 was estimated at 1,800 million lb., about 8% more than in 1948. Production of lard and pork fats increased more than 300 million lb. in 1949. Vegetable oil seeds, however, were slightly less abundant; the 1949 cottonseed crop was about 9% above that of the previous year; soya beans were nearly a record crop; flaxseed production declined, compared with 1948 but was 45% above average.

In 1949, the prices of most fats and oils ranged from two-thirds to under half their record postwar levels in 1948. Butter was about 60 cents wholesale and lard between 10 and 12 cents.

Exports of most kinds of fats and oils from the U.S., largely to western Europe, increased in 1949. For the first nine months of the year exports were threefold that of 1948 –1,826,200,000 lb. (J. K. R.)

VEGETABLES. 1949 was the most difficult year for vegetable growers after 1939: it brought a return to the situation in which they were undecided about what crops to grow for a profit. British growers were particularly confused by an implied change of governmental policy for the industry. A taste of what was in store came in the first three months when the prices of the staple income-producing crops dropped sharply. The mean weekly prices of five sample vegetables for Jan. 1 to March 31, expressed as an index of the respective 1948 prices, are shown in Table I.

TABLE I.—U.K. PRICES OF CERTAIN VEGETABLES

	Parsnips	Brussels Sprouts	Winter Cabbage	Onions	Leeks
At Covent Garden	34	93	43	44	22
Official average *	47	87	69	30	20

(Official average 1948 = 100)

* From Minister of Agriculture's *Agricultural Market Report*

Onions and leeks were a particularly bad trade, and it was estimated that 2,000 ac. of the latter crop were never harvested.

Overall acreage of vegetables, greatly expanded during the war, continued to increase after 1945 in response to the national effort for greater agricultural output. In 1948 this acreage was 63% above 1939 level, but the total marketings had not been on the same scale because yields were low. The mild winter of 1948-49 brought on good crops and the latent effect of the large acreage was revealed.

The loss of confidence among producers was reflected in a fall in the British acreage of vegetables from 583,000 to 530,000—at which level it was still 11% above the 1944-45 average. This was noteworthy in view of the government's declared policy of keeping the vegetable acreage at its wartime level, whilst relying on internal measures such as more widespread grading, elimination of low grade supplies and local association of small growers to provide economic

progress. Experimental standards for grades and packs were put forward by the Ministry of Agriculture later in the year.

Two trade agreements concerning the importation of horticultural produce from Poland and the Netherlands respectively were completed before March 15. And from Oct. 1 onwards the Board of Trade made a wide range of articles, including horticultural products, available for private importation. Some marked changes in the import situation are shown in Table II.

TABLE II.—U.K. IMPORTS OF CERTAIN VEGETABLES
(in thousand cwt.)

	Broccoli and Cauliflower		Onions (dry bulb)		Tomatoes	
	Volume	Index	Volume	Index	Volume	Index
1948	178	100	1,895	100	2,619	100
1949 (to Aug. 31)	508	285	3,171	167	3,423	130

Notwithstanding the increases shown in Table II, the total volume of imported vegetables was only some 10% greater in 1949 than in the same period in 1947; and in 1947 all vegetable imports were about 2% below the 1938 level.

As a preliminary to an attempt at concerted action to regulate vegetable supplies by European growers, an international conference on horticulture was proposed by the International Federation of Agricultural Producers and took place in London in April. Delegates submitted reports on the economic status of horticulture in their respective countries and the size of the industry in western Europe and its output in relation to demand were examined.

In the absence of irrigation summer-harvested crops were light in western Europe generally, and crops for winter use were backward until September. Glasshouse crops, on the whole, were favoured by the season, but prices for the main crop, tomatoes, averaged only 3*s*. per 12 lb. at wholesale in markets in Great Britain against 16*s*. in 1948. (R. R. W. F.)

United States. The U.S. 1949 crop of 25 vegetables, classed as commercial truck crops for the fresh market was a large and valuable one, although slightly below 1948 in tonnage, acreage and value. Consumption per capita of fresh vegetables in 1949 was estimated at 243 lb., only 95% as much as in 1948 but 103% of the prewar average. Prices averaged slightly higher than in 1948. The Cuban crop of 1949-50 appeared to be 10% larger than in recent years.

The 1949 U.S. production of 11 truck crops for commercial processing was 5,522,610 tons with record crops of sweet corn, pickling cucumbers and green lima beans. Acreage increased to 1,727,640, as compared with 1,697,870 ac. in 1948, and an average of 1,742,880 ac. in the period 1938-47. The total tonnage of 25 crops was 8,186,200 tons in 1949, valued at $589,757,000, compared with 8,459,700 tons in 1948. Production declined for 15 of the crops, increased for 10. Cabbage was the leading crop in tonnage, with 1,218,000 tons; lettuce was in second place with 1,171,000 tons; and water-melons were third with 960,000 tons. California was the leading state with 2,372,700 tons; Florida second with 908,200 tons; and New York third with 726,800 tons. Acreage for harvest in 1949 was 1,786,440, compared with 1,802,342 ac. in 1948; compared with the previous ten years, acreage was larger for the autumn and winter harvest seasons. California was the leading producer with 355,260 ac. devoted to such truck crops, followed by Texas with 304,600 ac. and Florida with 222,250 ac.

The aggregate production in 1949 of 11 truck crops for commercial processing, including crops for canning, freezing, pickling and other processing, exclusive of dehydration, was 5,522,610 tons, compared with 5,471,500 tons in 1948. California produced 1,102,940 tons of the total, and Wisconsin 635,790 tons. Tomatoes (2,633,700 tons) accounted for nearly one-half of the total, sweet corn, a record crop, for about one-fourth.

Although exports of vegetables, either in fresh or processed form were a comparatively small part of the crop, the rescinding by Canada on Oct. 1 of import restrictions on fresh vegetables opened the door for increased exports of tomatoes, lettuce, carrots, cabbage, celery and spinach. (*See* also AGRICULTURE; MARKET GARDENING; ROOT CROPS.) (J. K. R.)

VENEREAL DISEASES. Incidence showed a steady decline after the peak year of 1946 when in Great Britain alone 17,675 cases of early syphilis and 47,343 cases of gonorrhoea were treated at the various government and municipal clinics. In 1948 early cases of syphilis numbered 10,637 and gonorrhoea 30,312. Reports for 1949 showed that this decline was maintained.

Among the native populations of South Africa, Kenya and Southern Rhodesia the incidence remained high. In Southern Rhodesia alone nearly 600,000 received treatment and subsequent reports indicate that the numbers did not decrease: the diseases were widespread in both urban and rural areas. Efforts were made to bring penicillin into general use in the treatment of all cases of early syphilis; but the supply position prevented the institution of this as the standard procedure. It should also be noted that the incidence among service personnel in the Mediterranean, East Indies, Singapore and the far east remained high.

In France and Germany the incidence lessened but only slightly. This was probably owing to the fact that many continental venereologists did not use penicillin in the treatment of syphilis and gonorrhoea to the same general extent as was customary in the United States and Great Britain. In this connection it was interesting to note that no worker in this field in either of the two latter countries reported a definite case in which the infecting organisms of these two diseases were penicillin-resistant.

In Sweden with a population of just under seven million there were 1,026 cases of early syphilis and 10,597 of gonorrhoea in 1948, a fall of 181 and 1,053 respectively compared with the figures for the previous year. There was every reason to believe that this trend was continued during 1949, an observation that applied to all other European countries for which statistics were available.

The incidence of non-gonococcal urethritis in the male, a disease that is commonly venereal in origin, showed a definite increase. However, this could partly be attributed to the fact that in the past many workers considered all cases of urethritis to be gonococcal in origin and therefore noted them in their official returns as gonorrhoea although the gonococcus was never found in the secretions. It was owing to the increasing use of penicillin, which was found to cure all cases of gonorrhoea but to be usually ineffective against non-gonococcal urethritis, that differential diagnosis in such cases became more accurate. Reports showed that non-gonococcal urethritis in its abacterial form was at this time the most common venereal disease, but one upon which very little research had been carried out. The Expert Committee on Venereal Diseases of the World Health organization sitting at Geneva recommended the collection of data on this condition and three memoranda were issued, the first by A. H. Harkness of London, the second by the surgeon general of the U.S. army, and the third by W. E. Coutts of Chile. It was interesting to note that all cases mentioned in the second memorandum were considered to be bacterial (non-gonococcal) whereas in those of A. H. Harkness and W. E. Coutts no organisms could be demonstrated in the secretions of

a large majority of their cases. In all probability the organisms cultivated in the United States series were the normal saprophytic flora since cultural examinations of the urine of 200 controls not suffering from urethritis revealed similar types of bacteria. Inadequate cleansing before the taking of specimens was the probable explanation of this disagreement on the aetiology of this most prevalent of venereal diseases.

Advances in the treatment of the venereal diseases generally were associated chiefly with the recently discovered antibiotic known as aureomycin which was derived from a strain of *Streptomyces aureofaciens* isolated from soil. It was shown to have a low toxicity when administered orally in moderate dosage and to be curative in gonorrhoea (H. S. Collins *et al.*, 1948, C. H. Chen *et al.*, 1949); lymphogranuloma inguinale (L. T. Wright *et al.*, 1948, H. S. Collins *et al.*, 1948); granuloma venereum (L.T. Wright *et al.*, 1948, R. B. Greenblatt *et al.*, 1949); chancroid (C. H. Chen *et al.*, 1949); certain types of non-gonococcal urethritis due to the virus of inclusion conjunctivitis (A. H. Harkness, 1949) and possibly pleuropneumonia-like organisms (H. S. Collins *et al.*, 1948, R. R. Willcox and G. W. M. Findlay, 1949, A. H. Harkness, 1949). Confirmation was also obtained for the effectiveness of aureomycin in the treatment of syphilis both in its early and later manifestations. (P. A. O'Leary *et al.*, 1948 and 1949) but extensive trials in this field still remained to be carried out. There appeared to be great possibilities in the extensive use of aureomycin in prophylaxis since it had been shown to be effective against six venereal diseases.

Another antibiotic, chloromycetin, was proved by R. B. Greenblatt and his collaborators to be effective against granuloma venereum and there were indications that it might also prove useful in cases of certain types of non-gonococcal urethritis.

After the British wartime defence regulation 33B (providing for the compulsory treatment of venereal disease contacts in certain cases) became void, the tracing and treatment of the spreaders of the diseases was more difficult. A team of social workers, however, carried out excellent work and, thanks to their tact and persuasiveness, many contacts attended the clinics. The Central Council for Health Education also continued its campaign of enlightenment which did much to bring the whole subject out into the open. (A H. Hs.)

United States. In the United States, the outlook regarding venereal disease control was generally encouraging in 1949. The total number of syphilis cases (all stages) reported for the year ending June 30, 1949, for civilians in the U.S. and its territories, was approximately 14% lower than for the preceding fiscal year—296,455, as compared with 345,992.

Moreover, declining morbidity reports for the early stages of syphilis were believed to indicate that the incidence of the disease might be decreasing in the U.S. Consistent quarterly declines for almost three years in the discovery rate of primary and secondary syphilis, and later declines in the discovery rate of early latent syphilis, suggested such a reduction in the number of new infections occurring. That these declines occurred in the face of a 30% increase in efforts to find cases of venereal disease strengthened the thesis of diminished incidence.

Reported cases of gonorrhoea were lower in 1949 than for any year since 1945. For the U.S. and its territories, the 1949 total among civilians was 342,856.

The latest data recorded on mortality from syphilis also showed declines from figures previously reported. General syphilis mortality dropped to an estimated rate of 8 2 per 100,000 population in 1948, while for the same year the rate of infant deaths due to syphilis was estimated at ·13 per 1,000 live births. The admission rate to mental hospitals for psychoses due to syphilis (excluding Veterans administration facilities) was 4·2 per 100,000 population in 1947 as compared with 6·3 in 1938.

The emphasis placed on the discovery of V.D. cases by U.S. health departments was reflected in the number of diagnostic observations completed in public clinics during the year; the total number was 2,276,000. As a result of these examinations, almost half a million persons were diagnosed in clinics as having a venereal disease.

Admissions to rapid treatment centres, declining 11% from the figure reported for the preceding year, numbered 160,066 in the fiscal year 1949. Syphilis patients comprised 79% of this total, while gonorrhea patients and patients with other venereal diseases comprised 3% and 2% respectively. The remaining admissions were observation cases, persons found after examination not to have a venereal disease and patients admitted for treatment because of exposure to early infectious syphilis.

Procaine penicillin was widely used in the United States in the treatment of syphilis, largely replacing penicillin in oil and beeswax Clinical investigation of procaine penicillin, with aluminum monostearate added to delay absorption, was continued. The U.S. Public Health service reported that results of treatment with this preparation appeared to compare favourably with those obtained with penicillin in aqueous solution, which required more frequent administration. These results were considered preliminary, however, requiring a longer period of post-treatment observation before definite conclusions were justified.

Evaluation of schedules of treatment employing penicillin in aqueous solution and in oil and beeswax continued to show that where frequency of administration and quantity of penicillin were properly balanced, excellent results might be expected. Studies, after 12 to 15 post-treatment months, of several of the more effective schedules using these older forms of penicillin therapy showed that fresh treatment was necessary in less than 12% of the observed cases.

(T. J. B.)

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VENEZUELA. A republic on the north coast of South America, bounded on the north by the Caribbean sea, on the east by British Guiana, on the south by Brazil and on the west by Colombia. Area: 352,143 sq. mi. Pop. (mid-1949 est.): about 4,500,000. No official attempt has been made to estimate racial distribution, but major fraction of the population are *mestizo*, Negro and mulatto. Approximately 10% of the entire population live in the capital, Caracas, and its suburbs; while Maracaibo (150,000), Valencia (65,000), Barquisimeto (60,000), Puerto La Cruz (45,000) and San Cristóbal (40,000) are the other large cities. Executive power was exercised throughout 1949 by the military *junta* composed of Lt. Col. Carlos Delgado Chalbaud, Lt. Col. Marcos Pérez Jiménez and Lt. Col. Luis Llovera Páez.

History. The political tension of late 1948 gradually relaxed during 1949, as it became apparent that an orderly liquidation of the crisis was destined to occur. Decrees provided for the invalidation of the confiscation of private property in the years 1945-48 and for its eventual restoration.

Diplomatic relations with the United States, Great Britain, Spain and other countries were resumed early in 1949. A commission was set up late in 1949 to frame an electoral law by virtue of which a national congress would be chosen with power to revise the constitution. On Nov. 24 an amnesty of political prisoners and municipal elections to be held, at an early date, were decreed.

The year was marked by a determined effort to restore order in public finance and a general overhauling of fiscal administration was undertaken. Venezuela continued to be the foremost exporter and second producer of petroleum products. Early in 1949, temporary market conditions led to a slight falling off in production, but in the second half of the year it rose again and reached a peak of 1,400,000 bbl. per day in the last months of the year. Refinery output by 10 refineries and topping plants in operation in 1948 totalled 43·5 million bbl. Several new refineries, topping plants and pipelines were under construction in 1949.

The year 1949 witnessed substantial progress in the initial stages of the iron mining enterprises of the Bethlehem Steel company and the U.S. Steel corporation south of the Orinoco river. These operations foreshadowed an economic development of the east and south which would hasten the realization of great hydro-electric projects and the utilization of natural gas for industrial purposes.

Venezuelan price levels rose only slightly during 1949. The currency was one of the few in the world whose statutory basis had not been changed in the 20th century. The housing shortage in Caracas was slightly less pressing; in some provincial cities it became more acute. There was no significant unemployment reported during the year.

Government activity in forestry, irrigation, agricultural education, experiment stations and pest control was noteworthy in 1949. The problem of adequate supplies of meat and dairy products was attacked by the Ministry of Agriculture and Corporacion de Fomento, a government long-term financing authority. The activities of the Ministry of Development embraced a wide variety of mining and petroleum interests, as well as industrial promotion in many lines. Some hundred miles of new roads were constructed and old roads were repaired; the programme of school and hospital construction was advanced. In the city of Caracas the construction of a central arterial boulevard, the Avenida Bolivar, was brought close to completion by December. (C. McG.)

Education. Schools (1947-48): state primary 4,951, pupils 329,821, teachers (1946) 9,786; secondary (state and private) 132, pupils 20,047, teachers (1946) 2,218; pre-university training institutions 12, pupils 1,158; universities 3, students 3,366 Illiteracy (1941) 57%.

Agriculture. Main crops ('000 metric tons, 1948). rice 22, beans 50, maize 480, potatoes 16, cotton, ginned, 2; coffee 47, cocoa (1947) 18; sugar, raw value, 27, bananas 400. Agriculture does not supply the basic foodstuff needs of the population. Livestock ('000 head, 1937). cattle 4,265; sheep 108, goats 1,365, horses 194; mules 43, asses 191; pigs 356 Fisheries· total catch (fresh and salt, 1947; 1948 est. in brackets)· 40,858 (50,000) metric tons Food production ('000 metric tons, 1948)· meat 73·4 (of which beef 68), vegetable oils 8.

Industry. Fuel and power (1948, 1949, six months, in brackets): coal ('000 metric tons) 20·6; natural gas ('000 cu ft) 470,283 (238,019), electricity (million kwh.) 341 (191), crude oil ('000 metric tons) 70,115 (32,016). Raw materials (1948). gold (fine ounces) 43,000; diamonds (carats) 75,513, cement ('000 metric tons) 245. Timber production (1948) 151,308 cu. metres.

Foreign Trade. (Million bolivares, 1948) Imports 2,296, exports 3,340. Chief exports· crude petroleum and products (97%), coffee (1%), cocoa (1%), Chief imports machinery and equipment (32%), metals and manufactures (18%), foodstuffs and beverages (16%), textiles (10%) Chief suppliers U S. (73%), U.K. (8%). Chief customers: Netherlands Antilles (petroleum for refining) and U S.

Transport and Communications. Roads, all-weather (1949)· 3,829 mi. Licensed motor vehicles (Dec. 1948). cars 39,200, commercial vehicles 43,600 Railways (1946)· 696 mi.; passenger traffic (1947) 858,222. Shipping (July 1948): merchant vessels of 100 tons and upwards 70, gross tonnage 96,635. Air transport (1947) km. flown 11,168,000 Telephones (1948) 48,800

Finance and Banking (Million bolivares) Budget (1948-49 actual) revenue 1,962·7, expenditure 1,917 5; (1949-50 est) revenue and expenditure 1,610 4 Domestic national debt (Dec 31, 1948) 22·8; there is no external debt. Currency circulation (Nov 1949, in brackets Nov. 1948) 703 (674). Gold reserve (Nov 1949) U S $373 million. Monetary unit. *bolivar* with an exchange rate (in brackets before Sept. 18, 1949) of 9·4 (13·5) bolivares to the £; a bolivar is valued at U S. $0·2985 (controlled and free selling rates), but basic petroleum buying rate if U S. $0·3236

VETERANS' ADMINISTRATION, U.S.: *see* WAR PENSIONS.

VETERINARY MEDICINE.

The year 1949 was a notable one in that the 14th International Veterinary congress was held in London and was attended by over 1,000 delegates from many parts of the world.

Research upon bovine mastitis continued actively. A study was made of the comparative ability of two specially formulated water-in-oil emulsion vehicles to maintain a satisfactory level of penicillin in the bovine mammary gland and to compare them with that of an aqueous vehicle. A single injection of 100,000 units of penicillin showed that levels of the drug were maintained for significantly longer periods with either vehicle than with water, and in one case an effective concentration was attained for up to 72 hr. The results were published of a long-term study, ranging from one to seven years, upon the relationship of age to streptococcal infection of the milk of each cow in 12 Holstein-Friesian herds. The incidence of streptococcal infection of the mammary gland varied from 60-80% in the majority of herds. A regular increase in the incidence of infection occurred with advancing age, particularly during the first four years of lactation, but at different rates in the various herds. The rate of increase of infected animals was correlated with herd management practices, and also with the size of herd, the incidence being high in large herds despite good management. Trials were made of the antibiotic substance, nisin, prepared from *Streptococcus lactis*. Single intramammary infusion was used to treat 72 bovine udders infected with *Streptococcus agalactiæ*. With 5,000,000 units per quarter, 35 out of 37 cases were cured, while with 2,500,000 units per quarter, 30 out of 35 cases were cured. Nine out of ten quarters infected with staphylococci were sterilized with single mammary infusions of 5,000,000 units.

Salmonellosis was shown to be a serious disease of adult cattle in certain parts of Great Britain, the associated organism being usually *Salmonella enteritidis* var. *dublin* which was incriminated in 43 out of 46 outbreaks.

The Stormont test for the detection of bovine tuberculosis was carried out upon a further 300 animals which were subjected to a detailed post-mortem examination. It was shown to be an efficient and reliable test and was believed to be superior to both the single intradermal and the single intradermal comparative test for animals of unknown origin and history.

An antigenic substance prepared from killed *Brucella abortus* and dead vaccines consisting of whole organisms suspended in an oily base, failed to equal the efficiency of the living avirulent strain 19 in immunizing cattle against brucellosis.

The mucus agglutination test for the diagnosis of bovine trichomoniasis was shown to be capable of detecting a considerably higher percentage of positives among the infected members of a herd than the blood agglutination test.

Foul-of-the-foot was shown to occur in very young calves. A small controlled experiment indicated that the recovery rate in animals treated with sulphonamides did not differ significantly from that in control cattle treated intravenously with 500 ml. of a 40% solution of glucose.

The rapid growth of artificial insemination in Great Britain

was shown by the fact that no less than 11% of the dairy cattle of the country were inseminated at the Milk Marketing board centres.

An inherited form of cortical cerebellar atrophy in lambs (" daft lambs ") in Great Britain was studied. Outbreaks of polyarthritis in lambs (associated with *Erysipelothrix rhusiopathiae* infection) were found to be a common sequel to serum inoculation or to dipping. An authenticated outbreak of pneumonia in sheep associated with a pasteurella-like organism was described, and cases were successfully treated with either sulphapyridine or sulphathiazole.

A detailed study was made of a progressive retinal atrophy in Irish setters (Red). The condition was found to be associated with an atrophy of the receptor cells of the retina, with which was associated a reduction of the retinal blood vessels. The syndrome was established as hereditary, and was believed to be inherited as a simple Mendelian autosomal recessive factor. Much research was devoted to " hard pad " disease and, with the apparent concomitant reduction in cases of typical forms of canine distemper, a growing body of veterinary opinion subscribed to the view that the " hard pad " virus was a variant of distemper virus. A specific serum prepared against " hard pad " virus was widely employed with marked therapeutic success when administered sufficiently early. The value of protein hydrolysates for canine patients was established. Three spontaneous cases of the syndrome earlier termed *Hepatitis contagiosa canis* were recorded in dogs in England.

A disease of new-born foals due to sensitization of the dam by an antigen from the red blood cells of the foetus, a so-called iso-immunization of pregnancy, was described, and the diagnosis was established by appropriate serological tests. The disease in the new-born foal was shown to be a hæmolytic anæmia due to an intravascular hæmolysis, and could be treated with appropriate blood transfusion. Experiments were reported upon the treatment of horses with daily one-gramme doses of phenothiazine for periods of a year without toxic symptoms and with a marked reduction in fæcal egg counts and in the larval counts of the paddock in which the animals were grazed.

Newcastle disease continued to threaten the British poultry industry and was found to be associated with the importation of frozen carcases, from the viscera of which the virus was recovered. Legislative procedures to help to deal with the spread of the disease were introduced

Benzene hexachloride and chlordane—the latter a by-product from the synthetic rubber industry—were found to be efficient agents for the control of the tick *Boophilus (Margaropus) annulatus* var. *microplus* in Jamaica, while DDT also was superior to the arsenical preparations hitherto employed.

In Great Britain progress was made towards the establishment of university schools of veterinary medicine, and the laboratories of the Poultry Research station of the Animal Health trust were opened at Houghton Grange, Huntingdonshire. (W. R. W.)

VIENNA, capital of Austria and by far the largest city of central and south eastern Europe. Area: 107 sq. mi. Pop.: (1934 census) 1,874,581; (June 1945 est.) 1,250,000, (June 1948 est.) 1,730,613. Vienna is under quadripartite Allied occupation; besides the four sectors there is the international district in the centre of the city governed each month by a different power. Burgomaster, Theodor Korner (Socialist).

Against a backcloth, still, of war destruction the stage was set in 1949 for the revival of Vienna as the great capital city of central Europe. The tranquility and order were the more conspicuous in contrast with the tension and misery of Berlin, and the declension of its rival, Prague, into a drab outpost of the U.S.S.R. While there were still marks of poverty and suffering, the Viennese population as a whole appeared well-dressed and the chief shops stocked with finely wrought Austrian as well as imported goods. The first instalment of $230 million under the European Recovery programme had worked wonders. And the Four-Power administration maintained its record of harmony.

The city council was largely preoccupied with housing and reconstruction problems. By April the building of 2,000 municipal flats under the 1948 programme was completed and a start was made on a further programme of building and war damage repair. In spite of steady progress the housing situation was still critical and at the end of the summer as many as 50,000 families were seeking accommodation. Repairs to St Stephen's cathedral, so that it could at least be used for mass, made good progress, though the task of restoration would take years Early in the year the municipality had to admit that there were no funds available for rebuilding the Burgtheater or the State Opera house; but on March 9 a request was put up to the E R P authorities for a sum of Sch 20 million to enable the work to go on. Meanwhile music was reconquering its domain, and the theatre was flourishing, on whatever small stage could be improvised.

The old epithet of " red " Vienna was no longer applicable. Already weakened in the 1945 elections the Socialists suffered a further blow in the October municipal elections with the emergence of the Nationalist League of Independence. The Socialists retained only a bare majority in the city council, with 52 seats out of a hundred. Only in the Soviet-held factories was there a " revolutionary " nucleus, with a tightly-organized workers' militia against the day when the Soviet forces would depart. (W. H. Ctr.)

VIRGIN ISLANDS, BRITISH: *see* Leeward Islands.

VIRGIN ISLANDS, U.S.: *see* United States Territories and Possessions.

VITAL STATISTICS. Two important documents, published in 1949, produced a wealth of statistical material on world population trends in recent years. Not only did they provide much data for the postwar period which had previously been unobtainable, but they also made significant additions to the existing material relating to earlier years. The first of these—*The United Nations Demographic Yearbook 1948*—included data received in answer to questionnaires from 166 sovereign countries, dependencies, non-self-governing territories, trust territories, condominia and international administrations covering a wide range of statistics. The second document—the *Report of the United Kingdom Royal Commission on Population* (H.M.S.O., London, 1949) —combined an invaluable collection of all the relevant data with further analysis and recommendations for a population policy.

Births. There was a remarkable degree of uniformity in the movement of crude birth rates in western Europe after World War II. In all countries, the end of the war brought a sharp increase in the number of births registered and by 1947, the peak year in most cases, the percentage increases over average prewar rates varied between 17 and 37. The smallest increases occurred in the non-belligerent countries and the greatest increase in France. Figures for the full year 1948 showed a falling birth rate in all countries except Spain, Portugal and the British and French zones of Germany; preliminary figures covering the first six or nine months of 1949 showed a continuation of this decline for all countries other than France, Germany, Ireland and Switzerland which showed increases on the 1948 figures. During 1948, the highest birth rates in western Europe occurred in Portugal, the

TABLE I.—BIRTH RATES *
(*Number of Live Births per 1,000 Inhabitants*)

	1911-13	1931-35	1947	1948	1949 (1)
Austria	24·9	14·4	18·6	17·7	16·1
Belgium	22·7	16·8	17·8	17·3	17·2
Czechoslovakia	29·6	19·6	24·2	23·4	22·0 (2)
Denmark	26·3	17·7	22·1	20·3	20·0 (2)
France	18·1	16·5	21·0	20·8	21·6 (2)
Germany:	27·0	16·6	—	—	—
British zone	—	—	15·7	15·9	16·6 (2)
French zone	—	—	15·4	16·3	18·5 (2)
Ireland	22·6	19·4	23·1	21·9	22·0
Italy	31·7	23·8	21·9	21·6	21·5 (2)
Netherlands	28·1	21·2	27·8	25·3	24·3
Norway	25·4	15·2	21·6	20·6	20·4
Portugal	35·1	29·0	24·1	26·3	24·9
Spain	31·2	27·0	21·3	23·0	21·9
Sweden	23·6	14·1	18·9	18·4	18·2
Switzerland	23·8	16·4	19·3	19 0	19·1
United Kingdom	24·3	15·5	20·8	18·1	17·8
Argentina	37·4	26·4	24·3 (3)	—	—
Canada	27·4 (4)	21·4	28·6	26·9	25·7
Mexico	31·9 (4)	43·3	43·7	43·1	45·3 (2)
United States	25·1	16·9	25·7	24·4	23·9
India (5)	38·6	34·4	26·6	25·4	23·5 (2)
Japan	34·9	31·6	34·8	34 0	34·3
South Africa (6)	31·9	24·1	27·0	27·0	26 8
Australia	28·0	16·9	24·1	23·1	22·8 (2)
New Zealand	—	18·0	26·4	25·5	25·0

* For notes on table see end of article.

Netherlands, Czechoslovakia and Spain: the lowest figures were recorded in Germany, Belgium, Austria, the United Kingdom and Sweden.

In Australia, New Zealand, Canada and South Africa, postwar birth rates followed the same general trend, reaching a peak in 1947 and falling off in the following years. Birth rates in India had fallen steadily since 1911-13, while in Japan a rate of about 34 per 1,000 had been maintained, with few exceptions, since this date.

In the United States the number of births during the year ended July 1, 1949, totalled 3,723,000—an increase of 33,000 on the figure for the previous 12 months, but below the record 1946-47 figure of 3,986,000.

The almost universal increase in the number of births in the previous years subsided and should be regarded, in the main, as a postwar phenomenon. To a large extent these additional births were either "delayed" by the war or were "borrowed from the future" on account of earlier marriages during wartime. Nevertheless, rates were still substantially above average figures for the inter-war years.

Marriage Rates. The number of marriages per 1,000 inhabitants fell steadily during 1946-49 in all the principal countries of Europe, in the dominions and in the United States. During the war people tended to marry younger; in a sense these marriages were "borrowed" from the future and the sharp fall in current marriage rates reflected this fact. But figures for the full year 1948 were appreciably above 1932-36 averages and the incomplete figures for 1949 showed a rate lower than in 1948 but in most cases still above the prewar level.

TABLE II.—MARRIAGE RATES *
(*Number of Marriages per 1,000 Inhabitants*)

	1932-36	1941-45	1947	1948	1949 (1)
Austria	6 7	8·8	10·9	10·0	9·5
Belgium	7·7	7·1	9 9	9 2	8·8
Czechoslovakia	8·1	8 0	11·1	10 6	9·2 (2)
Denmark	8·9	9·1	9·6	9·4	8·0
France	7·1	6·6	10·3	8 9	7·5 (2)
Germany:	9 5	- -	—	—	—
British zone	—	—	10·0	10·7	9·4 (2)
French zone	-	6·1	9 6	9 6	9 5
Ireland	4 7	5·7	5 5	5·4	5·7
Italy	7·0	5 8	9·4	8 3	7·5 (2)
Netherlands	7·2	7·5	10·2	9·0	8·4
Norway	6·8	8 0	9 1	9 2	8·1
Portugal	6·6	7 4	8 1	7·7	6·2
Spain	6·1	7 0	8 2	7·7	6·2
Sweden	7·6	9·7	8·6	8·2	7·5
Switzerland	7·6	8·3	8·7	8·5	7·9
United Kingdom	8·1	8·3	9·2	8·9	8·0
Argentina	6·6	7·7	7·6 (3)	—	—
Canada	6·7	9·7	10·1	9·6	8·9
United States	9·6	11·9	13 8	12·3	11·0
South Africa (6)	9·8	10·4	—	—	—
Australia	7·7	10·0	10·1	9·7	9·9 (2)
New Zealand	7·8	8·5	10·9	9·9	9·8

* For notes on table see end of article.

Deaths. Death rates during 1948 established record low levels in all the main countries of the world, although the figures for Australia and New Zealand were slightly above the low prewar level. Incomplete figure for 1949 showed a general rise in the number of deaths except in the United States, Canada, Australia and India. The lowest death rates in 1948 were recorded in the Netherlands, Denmark, Norway, South Africa and New Zealand; and the highest rates in India, Mexico, Portugal, Belgium and France.

The death rate for the United States in 1948 was the lowest in census history. At 9·9 per 1,000 population, it was 2% below the 1947 rate of 10·1, and 1% below the 1946 rate. The leading causes of death remained the same as in 1947; the major diseases associated with advanced age accounted for 63 of every 100 deaths. Figures for the first ten months of 1949 show a further drop on the comparable figure for 1948.

TABLE III.—DEATH RATES *
(*Number of Deaths per 1,000 Inhabitants*)

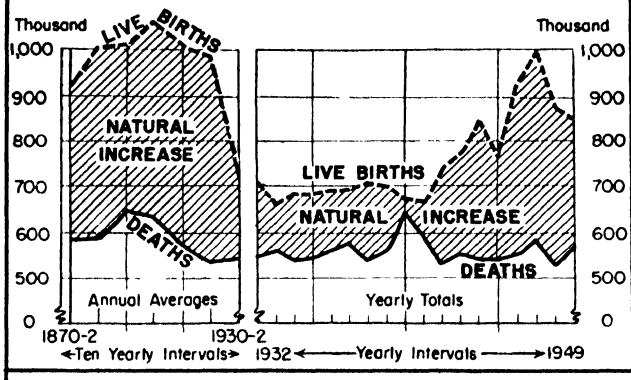
	1911-13	1931-35	1947	1948	1949 (1)
Austria	18·8	13·5	13 0	12·1	12·7
Belgium	15·3	12 9	13·3	12·4	13 0
Czechoslovakia	20 4	13·8	12·1	11·5	12·7 (2)
Denmark	13·0	10 9	9·7	8·6	9·7 (2)
France	19·0	15·7	13·0	12·2	15·6 (2)
Germany:	14·8	11 2	—	—	—
British zone	—	—	11·3	9·5	10·3 (2)
French zone	—	—	12·8	11·7	12·6 (2)
Ireland	16·4	14 0	14·9	12·2	13 0
Italy	19 3	14·1	11·4	10 5	11·5 (2)
Netherlands	13·1	8·9	8·1	7 4	12·5
Norway	13·3	10·4	9·3	8·8	9·0
Portugal	20·7	16·9	13·3	12·8	13·9
Spain	22·2	16·3	12·0	10·9	11·3
Sweden	13·9	11 6	10·8	9·8	10·0
Switzerland	14 8	11·8	11·3	10 8	10 9
United Kingdom (7)	14 2	12 2	12·1	10 9	11·8
Argentina	16·8	12·1	9·4 (3)	—	—
Canada	11·2 (4)	9·7	9·4	9·3	9 0
Mexico	25·5 (4)	24·9	16·3	16·3	17·9
United States	14·1	10·9	10·1	9·9	9·7
India (5)	29·9	23·5	19·7	17·1	14·6 (2)
Japan	20·7	17 9	14·8	12·0	11 8
South Africa (6)	10·3	9·8	8·6	8 9	9·1
Australia	10 9	9·0	9·7	9·9	9·2
New Zealand	—	8·6	9·4	9·1	9·2

* For notes on table see end of article.

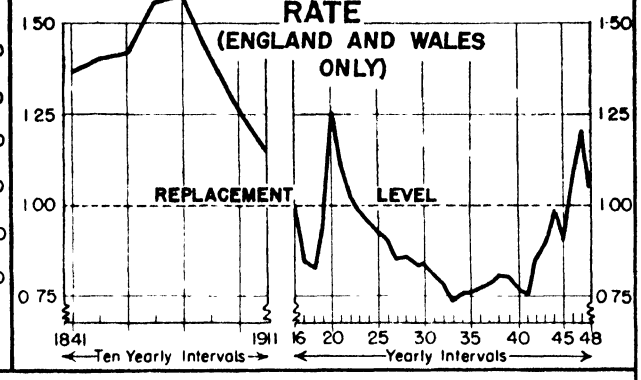
Infant Mortality. Much light was thrown on the movement of infant mortality rates in the postwar world. *The Demographic Year Book* brought up to 1947 series of figures which had in many cases ceased with the outbreak of war, and in others had been continued spasmodically during the war years. Figures for 1947 showed a marked improvement on prewar rates and set up a record low level in all countries except Rumania. New Zealand maintained the lead as the country with the lowest rate, but was closely followed by Sweden, Australia, the United States and the Netherlands. The highest rates for infant mortality still occurred in the countries of eastern Europe and in India and Egypt. But Hungary and Czechoslovakia made the greatest improvement by reducing their rates by 46 and 42 per thousand respectively from prewar years. Portugal, Spain and Japan also made marked progress in reducing their previously very high figures. Of those countries with relatively low rates before

THE POPULATION OF GREAT BRITAIN

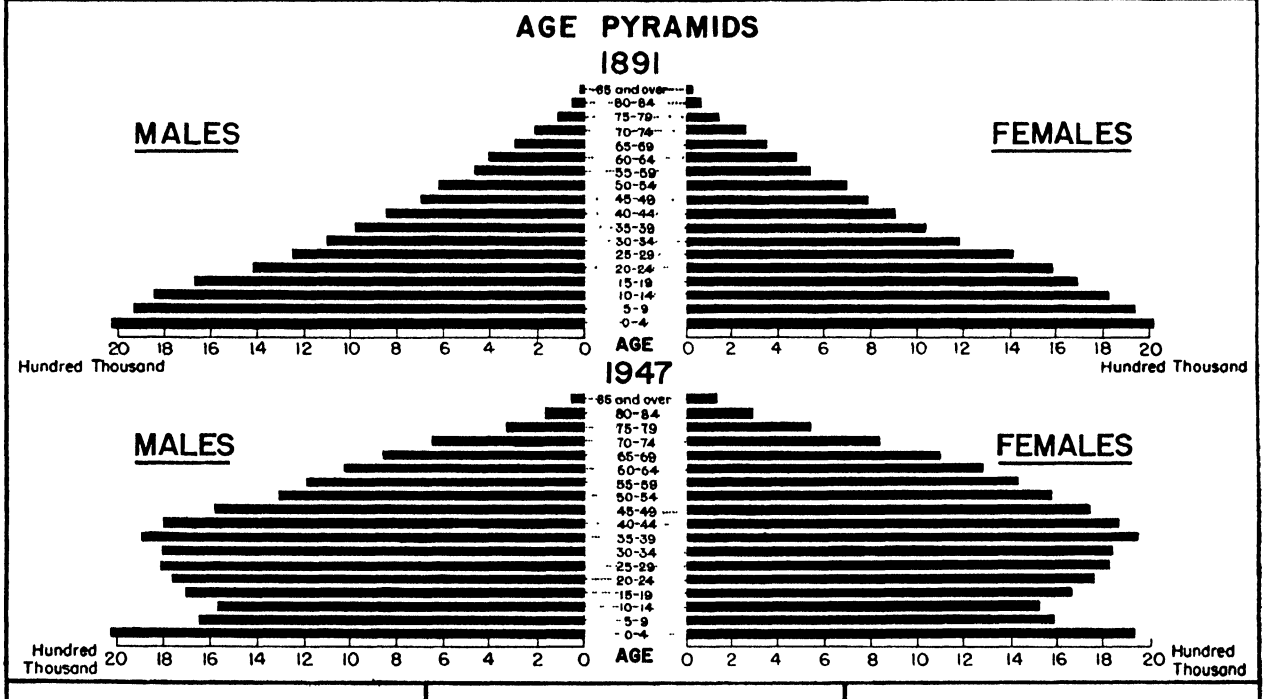
BIRTHS AND DEATHS



EFFECTIVE REPRODUCTION RATE (ENGLAND AND WALES ONLY)

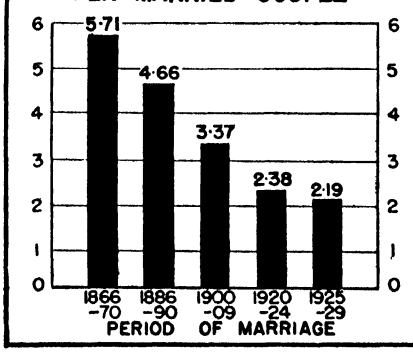


AGE PYRAMIDS

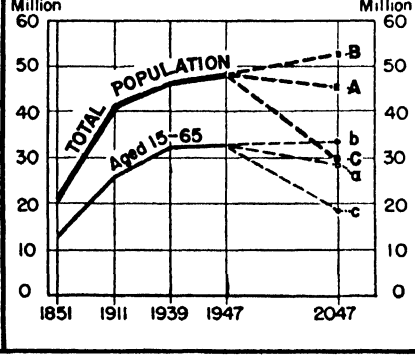


SIZE OF FAMILY

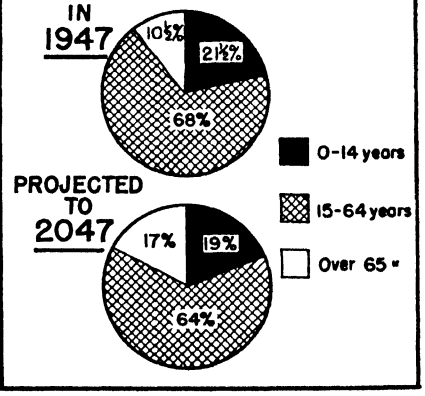
AVERAGE NO. OF LIVE BIRTHS PER MARRIED COUPLE



ESTIMATES OF FUTURE POPULATION



AGE DISTRIBUTION



The above charts are based on data contained in the report of the Royal Commission on Population published in June 1949. The commission was set up in March 1944 under the chairmanship of Viscount Simon. He resigned in May 1946 and was succeeded by Sir Hubert Douglas Henderson. The Royal Commission consisted of 16 members, of whom six were women; Lady Dollan resigned in June 1946.

TABLE IV.--INFANT MORTALITY *
(*Number of Deaths of Infants under One Year of Age per 1,000 Live Births*)

Country	1931-35	Latest Year	Country	1931-35	Latest Year
New Zealand	39	25 ('47)	Spain	113	76 ('47)
Sweden	50	25 ('47)	Austria	99	78 ('47)
Australia	41	28 ('47)	Argentina	94	79 ('46)
United States	59	32 ('47)	Italy	105	82 ('47)
Netherlands	45	34 ('47)	Japan	120	87 ('43)
South Africa (6)	63	35 ('47)	Czechoslovakia	130	88 ('47)
Norway	45	36 ('45)	Mexico	134	97 ('47)
Switzerland	48	39 ('47)	Portugal	146	108 ('47)
Denmark	71	40 ('47)	Hungary	157	111 ('47)
United Kingdom	65	43 ('47)	Bulgaria	147	129 ('47)
Canada	75	45 ('47)	Yugoslavia	153	132 ('38)
Finland	72	59 ('47)	Poland	137	140 ('38)
France	73	66 ('47)	India (5)	170	151 ('45)
Ireland	68	67 ('47)	Egypt	165	153 ('45)
Belgium	82	69 ('47)	Rumania	182	199 ('47)

* For notes on table see end of article

the war, Denmark, Canada and the United States considerably reduced infant mortality numbers.

Net Reproduction Rates. In spite of falling death rates, the rate of growth of the populations of western Europe slackened considerably throughout the 20th century. The Netherlands was the only country in northwest Europe in which rapid growth continued. Similarly, in the United States, Australia, New Zealand and Canada the rate of population growth declined. In southern and eastern Europe a recent decline in fertility had been offset by falling death rates, with the result that the populations continued to expand at their former rapid rate. In India and Pakistan population growth was intensified by a decline in death rates unaccompanied so far by any proportionate decline in fertility. The population of China remained approximately stable on account of death rates being roughly as high as birth rates.

Some guide to future population movements was offered by the trend of reproduction rates in various countries. These measured, on the basis of current fertility and mortality, the degree to which a nation was reproducing itself or, more accurately, the degree to which one generation of mothers of child-bearing age was reproducing itself. Table V gives the net rates of reproduction in 20 countries before World War II together with the most recent postwar figure where available.

In all countries recent figures were above unity, reflecting the enormous rise in birth rates since 1945. These compared with prewar figures which were, in the case of most western European countries, well below reproduction level. But too much significance should not be attached to this seeming sharp reversal of the downward trend, since to a large extent the higher rate was due to the impact of World War II.

TABLE V.—NET REPRODUCTION RATES *

Country	Year	Rate	Country	Year	Rate
Belgium	1939	0 86	Portugal	1946	1·12
	1947	1 00	Spain	1932	1 28
Czechoslovakia	1937	0 76		1943	1·10
Denmark	1931-35	0 93	Sweden	1931-35	0·77
	1947	1·27		1945	1 15
England & Wales	1931-35	0·78	Switzerland	1936	0·79
	1947	1·21		1946	1·16
France	1931-35	0 90	Australia	1931-35	0 97
	1944	0 94		1945	1·24
Germany	1931	0·75	New Zealand	1936	0 97
Ireland	1935-37	1·22		1946	1·47
Italy	1935-37	1·13	Canada	1931-35	1·24
Netherlands	1935	1·14		1945	1 33
	1946	1 76	United States	1930-34	0 98
Norway	1932-36	0·77		1946	1 36
	1945	1·07	U S S R.	1937	1·70
Poland	1934	1·11			

* For notes on table see end of article.

Recent figures for England and Wales showed that, in 1948, the population was still reproducing itself but to a lesser extent than during the previous year. This was the third year in succession in which the effective reproduction rate was greater than unity. There was a striking similarity between the figures during and after the two World Wars.

TABLE VI - EFFECTIVE REPRODUCTION RATES 1841-1947 ENGLAND AND WALES 1841-1948

Year	E R R	Year	E R.R.	Year	E.R R.
			Long Range		
1841	1 371	1881	1 576	1922	1 013
1851	1 401	1891	1 413	1933	·747
1861	1 446	1901	1 263	1939	808
1871	1 562	1911	1 130	1948	1·070
			Short Range		
1916	1 004	1927	853	1938	810
1917	·851	1928	859	1939	·808
1918	826	1929	835	1940	·772
1919	944	1930	840	1941	761
1920	1 265	1931	816	1942	853
1921	1 110	1932	·790	1943	·900
1922	1 013	1933	747	1944	996
1923	994	1934	766	1945	909
1924	954	1935	764	1946	1 103
1925	928	1936	774	1947	1 205
1926	908	1937	785	1948	1·070

Age Composition of the Population. The decreasing birth rate evident until the last few years in most of the countries of western Europe led to a persistent increase in the average age in these countries This movement was strikingly evident in the United Kingdom In 1871 36% of the population was under 14 years of age. By 1947 this age group represented only 22% of the total. At the other end of the scale, only 11% of the population in 1871 was over 55 years of age; the corresponding figure for 1947 was 21%.

TABLE VII.—AGE COMPOSITION OF THE POPULATION OF THE UNITED KINGDOM

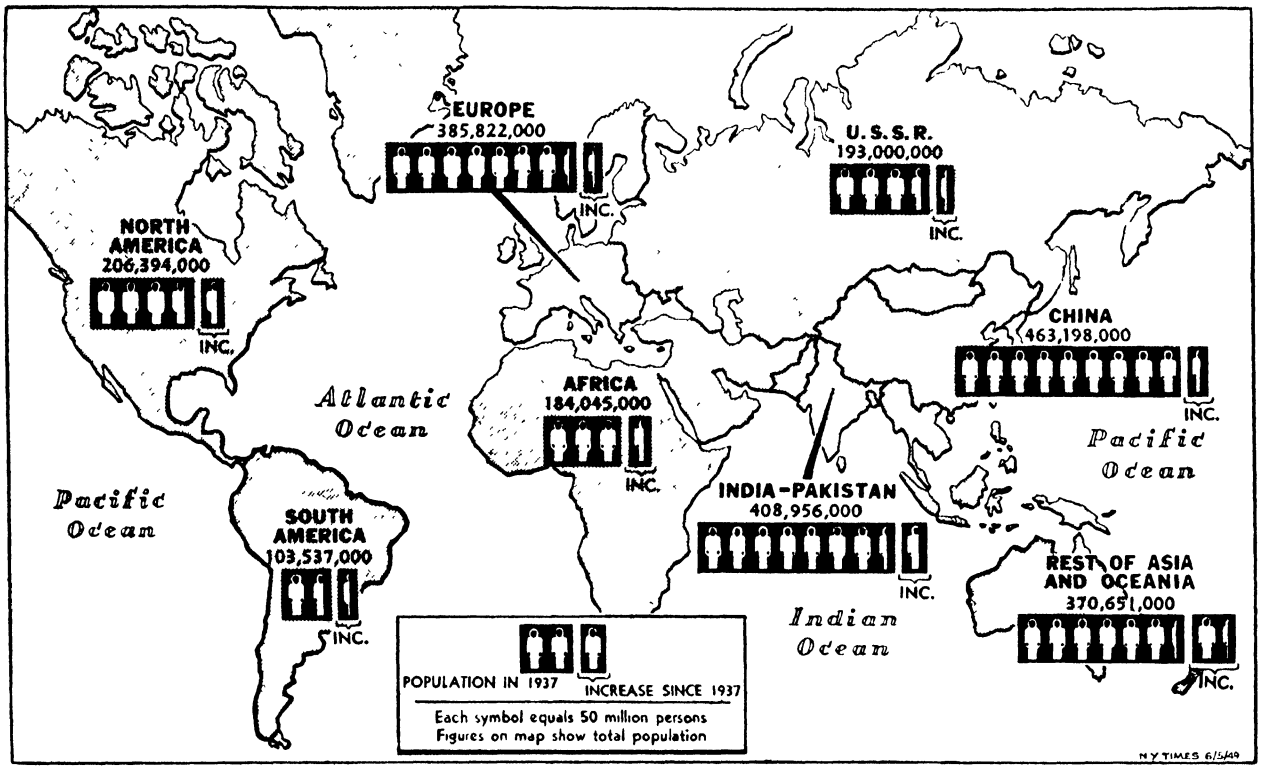
Age Group	1871 thousands	1871 %	1931 thousands	1931 %	1947 thousands	1947 %
0-4	3,691	13 5	3,531	7·7	4,114	8 3
5-14	6,218	22 7	7,643	16·6	6,570	13·3
15-24	5,071	18 5	8,013	17 4	7,120	14 4
25-34	4,004	14 6	7,335	15·9	7,507	15·2
35-44	3,078	11·2	6,223	13 5	7,676	15·5
45-54	2,396	8·7	5,614	12 2	6,352	12·7
55-64	1,640	6 0	4,262	9 3	5,054	10·2
65 & over	1,334	4 8	3,417	7 4	5,150	10·4
Total	27,431	100 0	46,038	100·0	49,539	100·0

TABLE VIII.—AGE DISTRIBUTION IN THE UNITED KINGDOM, UNITED STATES AND FRANCE IN 1947

Age Group	United Kingdom thousands	United Kingdom %	United States thousands	United States %	France thousands	France %
0-19	13,672	28	49,861	34	12,050	30
20-39	14,666	31	45,919	31	11,290	28
40-59	12,507	26	33,992	23	10,655	26
60 & over	7,343	15	16,799	12	6,425	16
Total	48,188	100	146,571	100	40,420	100

The United Kingdom Population Report. Some of the main features of the *Report of the Royal Commission on Population* are shown graphically on page 665. Apart from summarizing all the available information on the trend of births, deaths and marriages over recent years, the report examined and analysed such points as the significance of the very high births of recent years; the trend in the size of the average British family over the last hundred years; the variations in size of family between different "social classes." Finally, by taking three different assumptions about the trend of future family-building habits as a basis, an attempt was made to show possible movements of the British population in the next hundred years.

The commissioners concentrated their study to a large extent on movements in the average size of completed families. In mid-Victorian times the average number of children in each completed family numbered between 5½ to 6. Between



Between 1937 and 1947 the world's population grew from 2,140 million to 2,320 million. In South America the increase was 23% while in Europe it was only 6%. The increase in Asia was nearly 100 million.

TABLE IX.—EXPECTATION OF LIFE *

	Date	Male	Female	Date	Male	Female
Austria	1901-05	39 14	41 06	1930-33	54 5	58 5
Belgium	1891-1900	45 39	48 84	1934-35	58 82	62 79
Bulgaria	1900-05	42 08	42 20	1925-28	45 92	46 64
Czechoslovakia	1899-1902	38 89	41 71	1929-32	51 92	55 18
Denmark	1901-05	52 9	56 2	1941-45	65 62	67 70
England and Wales	1910-12	51 50	55 35	1937	60 18	64 40
France	1898-1903	45 31	48 69	1933-38	55 94	61 64
Germany	1910-11	47 41	50 68	1932-34	59 86	62 81
Hungary	1930-31	48 27	51 34	1941	54 92	58 22
Ireland	1925-27	57 37	57 93	1940-42	59 01	61 02
Italy	1901-11	44 24	44 83	1930-32	53 76	56 00
Netherlands	1900-09	51 0	53 4	1931-40	65 7	67 2
Norway	1901-10	54 82	57 70	1921-30	60 98	63 84
Poland	—	—	—	1931-32	48 2	51 4
Spain	—	—		1930-31	48 74	51 94
Sweden	1901-10	54 53	56 98	1936-40	64 30	66 92
Switzerland	1910-11	50·65	53 89	1939-44	62 68	66 96
Canada	1926-30	57 70	59 74	1940-42	62 96	66 30
United States	1900-02	47 88	50 70	1939-41	61 60	65 89
India (5)	1901-11	22 59	23 31	1921-31	26 91	26 56
Japan	1899-1903	43 97	44 85	1935-36	46 92	49 63
South Africa (6)	1920-22	55 61	59 18	1938	60 49	65 49
Australia	1901-10	55 20	58 84	1932-34	63 48	67 14
New Zealand	1901 05	58 09	60 55	1934-38	65 46	68 45

* For notes on table see end of article

1865 and 1900 the average size of the family fell by a quarter, and the fall gathered speed as time went on. By 1946 the average completed family had 2 2 children—a reduction of 60% on the mid-Victorian average.

But the decline in family size did not proceed uniformly throughout the community. Among couples married in the first 30 years of the 20th century, the average size of a family of manual workers consistently exceeded that of non-manual workers by just over 40%. Thus, among non-manual workers married after 1920, the average size of family had fallen well below 2, while that of the manual worker had come down to an average of 2½.

One important factor emerged from this analysis; after falling continuously for half a century, the average size of family has been comparatively stable over the previous 20 years at a figure of about 2 2 children per married couple. This, the report estimates, is some 6% below replacement level.

Turning towards the future, the report discounted the significance of the postwar "jump" in the birth rate. By taking the 1933 marital fertility rates, it estimated the number of births that would normally have been "expected" annually between 1939 and 1948 and compared these with actual figures. Taking the period as a whole, the number of births actually occurring was only slightly higher than the number "expected." But the distribution from year to year was quite different.

TABLE X.—ESTIMATED AVERAGE SIZE OF COMPLETED FAMILY, MANUAL AND NON-MANUAL WORKERS, ACCORDING TO PERIOD OF MARRIAGE

Date of Marriage (a)	Non-Manual Workers (b)	Manual Workers (c)	Ratio of (c) to (b) (percentage) (d)
1900-09	2 79	3 94	141
1910-14	2·34	3 35	143
1915-19	2 05	2·91	142
1920-24	1 89	2 73	144
1925-29	1·73	2·49	144

Nevertheless, the very fact that, in spite of the wartime disruptions of family life, the average size of the British family remained as high if not slightly higher than ten years previously suggested the possibility of a small increase in the size of completed families. Figures for recent years also indicated that the size of the family of the non-manual worker had increased while that of the manual worker had fallen.

The report took a fairly optimistic view in considering the future trend of population numbers. If the average size of family were to stay constant at the same level as among couples married between 1927-38, the total population of

TABLE XI.—LEGITIMATE BIRTHS, GREAT BRITAIN, 1939-48, WITH NUMBERS "EXPECTED" AT 1935-38 MARITAL FERTILITY RATES

(In 1,000)

Year (a)	Number of legitimate births (b)	Number of legitimate births expected at 1935-38 marital fertility rates (c)	Column (b) minus column (c) (d)	Cumulative total of column (d) (e)
1939	671	702	— 31	— 31
1940	646	739	— 93	—124
1941	632	765	—133	—257
1942	699	766	— 67	—324
1943	728	756	— 28	—352
1944	785	733	52	—300
1945	696	729	— 33	—333
1946	864	741	123	—210
1947	947	746	201	— 9
1948	831	754	77	68
Total 1939-48	7,499	7,431	68	

Great Britian by 2047 should number about 45·5 million compared with just over 50 million to-day. A 6% increase in the size of family would lead to a slow increase in the population to 52·7 million in 100 years. If, on the other hand, the average family size fell to 80% of this level, total numbers would fall sharply to some 29·6 million in 2047.

NOTES ON TABLES. 1. Annual rate during first nine months of 1949 unless otherwise stated. 2. Annual rate during first six months of 1949. 3. 1946—latest figure. 4. 1921-25. 5 Figures to 1946 refer to former British India; beginning 1947 to Indian Union. 6. European population only. 7. Excluding armed forces overseas. Blanks = Not available.

(*See* also MARRIAGE AND DIVORCE.) (E. I. U.)

VYSHINSKY, ANDREY YANUAREVICH, Soviet politician (b. Odessa, 1883). Deputy chairman of the council of people's commissars of the U.S.S.R. from March 31, 1940, and deputy people's commissar of foreign affairs from Sept. 7, 1940, he was not among the nine deputy chairmen of the council of ministers (the description people's commissar being dropped) appointed by Joseph Stalin on March 15, 1946. He remained, however, one of the four deputy ministers of foreign affairs. (For his early career see *Britannica Book of the Year 1949.*)

On March 4, 1949, he succeeded Vyacheslav M. Molotov as minister of foreign affairs. He took part in the Paris session of the Council of Foreign Ministers (May 23-June 20, 1949) and was the head of the Soviet delegation at the 4th U.N. general assembly at Flushing Meadow, New York. His strong protest against Yugoslavia's candidature to the Security council did not prevent its election on Oct. 20. Speaking at a meeting of the U.N. political committee on Nov. 10 he alleged that the U.S.S.R. was using atomic energy for such peaceful purposes as razing mountains and irrigating deserts. On his way back to Moscow he stopped in Berlin on Dec. 14 and called on Wilhelm Pieck, president, and Otto Grotewohl, prime minister, of the German Democratic republic.

WAGES AND HOURS. Meeting early in September, before the devaluation of the pound sterling was announced, the British Trades Union congress re-affirmed its support for the policy of restraint in wage-claims; and the general council re-asserted this attitude with increased insistence after devaluation had been made public. At this time a number of the principle trade unions had important wage-claims under negotiation, including the Confederation of Shipbuilding and Engineering Unions and the Civil Service Clerical association. The National Union of Railwaymen had just had its claim for an all-round advance rejected by the special tribunal to which it had been referred, and there was talk of strike action, or of a "work to rule" movement; but the delegate conference of the union decided to limit its action for the time being to a renewed demand for an improvement in wage rates for the lowest paid grades, for which an offer had actually been made by the British Railways executive before the major issue was referred to the tribunal.

During the first eight months of 1949 wage changes were less than during the corresponding months of 1948. The principal groups to receive advances were the agricultural workers, the cotton operatives, the postal workers and the building trades. The total advances recorded in the official statistics up to the end of August amounted to £765,000 a week spread among 4,415,000 workers, as compared with £1,219,000 and 4,848,000 workers in the corresponding months of the previous year. There were no important changes in standard hours of work. The official index of wage rates (June 1947 - 100) stood at 109 in Aug. 1949, as against 106 a year previously.

For weekly earnings, as distinct from wage rates, the latest current figures were for April 1949. For the trades covered by the returns the overall average was 119*s.* 4*d.*, as compared with 114*s.* in April 1948 and 53*s.* 3*d.* in Oct. 1938, which is used as the *datum* line for reckoning the percentage changes since the beginning of World War II. This gives a rise of 124% in April 1949, and of 114% a year earlier. Over the same period, average hours worked (including overtime) had fallen from 46·5 in Oct. 1938 to 45·3 in April 1949 and the same a year earlier. The reduction in actual hours worked was substantially less than the reduction in the standard working week, as more overtime was being worked. Most trades in 1949 were working a five-day week, with overtime, except where special reasons existed for week-end work. These statistics of wages and hours did not include agriculture, coal mining, railways or the distributive trades, and covered only a minority of transport workers. They were, however, sufficiently representative of manufacturing industries and of most public utility services. Table I breaks up the overall averages into separate averages for men, women and young workers.

TABLE I.—AVERAGE WEEKLY EARNINGS IN GREAT BRITAIN

	Oct. 1938	July 1945	April 1948	April 1949
Men over 21	69*s.* 0*d.*	121*s.* 4*d.*	134*s.* 0*d.*	139*s.* 11*d.*
Women over 18	32*s.* 6*d.*	63*s.* 2*d.*	72*s.* 11*d.*	77*s.* 2*d.*
Youths and Boys	26*s.* 1*d.*	45*s.* 6*d.*	57*s.* 2*d.*	58*s.* 6*d.*
Girls	18*s.* 6*d.*	35*s.* 1*d.*	48*s.* 4*d.*	50*s.* 3*d.*

These general averages conceal both the differences between skilled and less skilled workers and the differences between industries. In all occupations there was a considerable narrowing of the real differentials paid for the more skilled work, especially under time-work conditions. This was mainly the effect of flat-rate advances to all workers in an industry irrespective of skill. In piece-working occupations some, but by no means all, skilled workers were able to increase their earnings enough to offset the decline in relative margins as measured by wage rates; but in some cases less skilled workers were able to increase their earnings more easily than the more highly skilled. There was considerable discontent among a number of groups of highly skilled time-workers, including supervisory grades, where their earnings fell below those of piece-workers ranking below them in the traditional hierarchies.

In April 1949 the industries recording the highest average earnings were, for adult men, automobile manufacture and newspaper printing (both 170*s.*), and for women, passenger road transport (108*s.*) and automobile manufacture (97*s.*). The lowest earnings were, for men, in linen and jute (108*s.*) and local authority industrial services (114*s.*), and for women, in linen (61*s.*) and laundries (66*s.*). For men, the great majority of industries fell within the range 148*s.*—127*s.*, and for women, within the range 80*s.*—70*s.* After devaluation there was some talk of instituting a minimum wage of 100*s.*

a week for adult men, with a lower minimum for women workers; but this, if it meant a minimum *rate* of 100*s.* for the standard working week, would involve a very considerable rise in the total wages bill. In engineering, which is relatively well paid, the bottom rate was only 92*s.*, and on the railways the average for a number of the lowest grades was 92*s.* 6*d.*

In 1948, according to the official calculation, wages absorbed 44% of the national income, salaries 21%, forces pay 3%, and rent, interest and profits 32%. The corresponding percentages for 1938 were 37, 24, 2 and 37; and for 1947 they were 42, 21, 4 and 33. These figures show the distribution prior to taxation. After taking account of *direct* taxation the percentages for 1948 were 48, 21, 3 and 28; for 1947 they were 46, 21, 5 and 28 and for 1938 they were 39, 25, 2 and 34. (G. D. H. C.)

United States. Total wage payments in the United States declined 8·75% from Sept. 1948 to Sept. 1949, as measured by pay rolls in manufacturing industries. This compared with an almost equal decrease in manufacturing employment (8·3%) in the same period. Total employers' disbursements, including salaries and wages, amounted to $11,417 million in Sept. 1949, or 0·49% less than for the same month in 1948.

TABLE II.—EARNINGS IN THE U.S., AUG. 1949, COMPARED WITH AUG. 1948

Industry	Average weekly earnings		Average weekly hours		Average hourly earnings (cents)	
	1949	1948	1949	1948	1949	1948
All Manufacturing	$54·66	$55 06	39·1	40·1	$1·398	$1·373
Durable goods	57·74	58·50	39·2	40·6	1·473	1·441
Non-durable goods	51·31	51 07	38·9	39·5	1·319	1·293
Iron and steel	55·95	61·20	36·3	40·5	1·539	1 514
Electrical machinery	56·96	56·94	39·2	39·9	1·453	1 427
Non-electrical machinery	59·82	61·42	39·1	41·0	1·530	1·498
Transportation equipment	65·28	63·43	39·3	39·3	1 661	1·614
Automobiles	67·95	64·57	39 9	38·9	1·703	1 660
Non-ferrous metals	54·24	60·78	39 0	40·5	1 518	1·501
Timber and wood products	53·42	54·78	40 9	42·5	1·306	1·289
Furniture, etc.	49·61	48·64	40 4	40·6	1 228	1 198
Stone, clay and glass	54·13	54·98	39 6	41 4	1·367	1·328
Textile-mill products	44·37	45·36	37 6	38·6	1 180	1·175
Apparel, etc.	41·79	43·98	35 6	36·5	1·174	1 205
Leather and leather products	42·00	42·71	37 2	38·0	1·129	1·124
Food and food products	52·92	50·88	41·7	41·2	1·269	1·235
Tobacco manufactures	38·63	37·65	38·9	39·1	·993	·963
Paper and allied products	56·27	56·76	41·9	43·1	1·343	1·317
Printing and publishing	70·89	67·15	38·4	39·2	1·846	1·713
Chemicals and allied products	58·83	57·39	40·6	41·2	1·449	1·393
Products of coal and petroleum	72·04	72·42	40·2	41·5	1·792	1·745
Rubber products	57·42	60·33	38·1	40·3	1·507	1·497
Non-Manufacturing						
Coal mining—Anthracite	43·85	72·77	24·0	38·3	1·827	1·900
Coal mining—Bituminous	49·59	76·48	26·1	39·0	1·900	1·961
Metalliferous mining	58·66	62·88	39·5	43·1	1·485	1·495
Street railways and buses	64·60	62·31	44 8	46·5	1·442	1·340
Telephone	51·61	48·42	38·4	39·4	1·384	1 229
Telegraph	63·64	62·56	45·1	45·5	1·411	1·375
Gas and electricity utilities	64·20	61·17	41·5	41·9	1·547	1·460
Wholesale trade	57·36	55·87	40·8	40·9	1·406	1·366
Retail trade	38·96	37·86	37·5	37·9	1·039	·999
Hotels	32·94	31·85	44·1	44·8	·747	·711
Private building	71·91	70·91	37·2	37·8	1·931	1·874

Source of tables II and III: Compiled and computed from data in *Monthly Labour Review*, United States Bureau of Labour Statistics.

Coal miners lost their position as recipients of the highest "take-home pay." Those classified as workers in products of coal and petroleum earned a weekly average of $72·04 in 1949. The lowest weekly payments were made to hotel employees ($32·94), but this figure did not represent their total earnings for it did not include tips, board and lodging or uniforms. Employees in tobacco processing plants were second lowest, with $38·63.

TABLE III.—RISE IN HOURLY EARNINGS RATES, 1944-49: U.S. (August Rates)

Industry	1944	1946	1948	1949	Index 1949*
All manufacturing	$1·016	$1·112	$1·373	$1·398	181·5
Durable goods	1·111	1·186	1·441	1·473	172·7
Non-durable goods	·865	1·036	1·293	1·319	194·0
Iron and steel	1·076	1 222	1·514	1·539	175·5
Machinery (non-electrical)	1·120	1·246	1·498	1·530	177·7
Automobiles	1·262	1·373	1·660	1 703	156·1
Timber and allied products	·803	·928	1·289	1 306	218·4
Textile products	·711	924	1·175	1·180	203·1
Food and food processing	844	1·015	1·235	1·269	186·9
Tobacco products	·715	·885	963	·993	188·4
Rubber products	1·102	1·295	1 497	1·507	174·2
Coal mining—Anthracite	1·179	1·598	1 900	1·827	181·6
Coal mining—Bituminous	1·189	1·466	1·961	1·900	183·0
Wholesale trade	·939	1·148	1·366	1·406	173·2
Private building	1·323	1·462	1 874	1·931	189·7

* 1941 = 100

Compared with 1948, 1949 was a year of greater stability. Hourly wages continued their upward trend, with the slight decline in average weekly earnings attributable to a reduction in the length of the working week. In conjunction with price trends, the net effect was an increase in real wages. (*See* also PRICES; WEALTH AND INCOME, DISTRIBUTION OF.) (D. J. H.)

WAKE ISLAND: *see* UNITED STATES TERRITORIES AND POSSESSIONS.

WALES. Principality forming part of Great Britain. Area: 8,012 sq. mi. (with Monmouthshire). Pop. (Dec. 31, 1948, est.): 2,552,000.

Early in 1949 the Welsh Association of Local Authorities sought the views of 182 such bodies on the government's proposal to set up an advisory council for Wales and Monmouthshire. Of the 149 local authorities which replied, only 12 approved outright, 67 approved of it as an experiment, 64 rejected the proposal and 6 favoured no action either way.

The prime minister on April 26 announced in the House of Commons 27 nominations and appointed H. T. Edwards, a north Wales trade union organizer with long experience in public service, chairman of the Advisory Council for Wales. At the first formal meeting held in Cardiff the members of the council were accorded a civic welcome. Subsequent meetings were held in private in north and west Wales; and in the autumn it was announced that specialist committees would inquire into the problems of emigration from Wales, unemployment amongst partially disabled workers and marginal land.

In the annual debate on Welsh matters in the House of Commons (Nov. 24) James Griffiths, minister for national insurance, stated that the Advisory council was only part of a developing policy and should be judged in relation to other things the government had done for Wales since 1945. During the debate there were cries of "Wales wants a republic" from the gallery and leaflets were showered on the members below. In their speeches several of the Welsh members criticized government policy, particularly on agriculture, war training in traditional beauty spots, and unemployed ex-miners; and there were demands for self-government for Wales.

Considerable opposition arose to the British Electricity authority's proposed £20 million hydro-electricity schemes for north Wales which embodied the construction of six dams and the flooding of six valleys in districts famous for their natural beauty. There was also some uneasiness over the increasing demands of the Forestry commission on hill-farming land in order to attain its objective of planting on some 14,000 ac. annually in Wales for a 50-year period.

Re-organization of the basic industries went on steadily. Although the number of miners in the south Wales

coalfields decreased by 4,500, increased mechanization and improved relations between managers and men helped to raise output, although the increase of 300,000 tons on the previous year's output was considered disappointing. New developments in open-cast mining in west Wales were expected to yield more than a million tons a year of anthracite over the next six years and to give coal exports from Wales, which rose by some 2 million tons in 1949, an additional fillip.

Wales once again played an important role in the achievements of Britain's steel industry. Production of crude steel and of pig iron showed a substantial advance on the previous year. By the third quarter of 1949 the steel output was at the rate of 3·3 million tons. As in mining there was a dearth of skilled men in the Welsh tinplate and steel sheet industry but output rose steadily and formed a high percentage of the whole United Kingdom yield of these products. What was believed to be the largest strip mill in Europe was nearing completion at Port Talbot, Glamorgan, and the complementary cold reduction plant at Llanelly, Carmarthenshire, was also well advanced. Government spokesmen gave assurances that more new industries would be established in south Wales to absorb some 10,000 men who would become redundant at old plants when the vast new enterprise got under way.

Diversification of Welsh industry continued steadily despite shortage of materials and key labour and devaluation problems. It was announced that in four years work had been provided for 45,000 persons in new government-built factories in Wales. On the other side of the picture was the average unemployment total of some 36,000 mainly disabled men, a considerably higher percentage than that of the workless in England or Scotland. The first regular north to south Wales air service operating between Valley (Anglesey), Hawarden (Flint) and Cardiff, closed down after six months owing to poor public support.

Welsh agriculture made further headway. At the end of September the total cattle at 994,371 head was the highest ever and an increase of 32,200 on the previous year. Sheep and poultry also increased substantially. Acreages under wheat, potatoes and tillage were sustained at practically the previous two years' figures. Milk production advanced once again—milk sales increased by 61·1 million gallons in ten years.

In education the new Welsh Joint committee began its work with H. Wyn Jones, former director of education for Carmarthenshire, as secretary. Cardiff castle, presented to the city by the Marquis of Bute, was re-opened as a Welsh National College of Music and Art. The National Eisteddfod at Dolgelley, a small county town of Merioneth, attracted some 70,000 people and made £4,000 profit. At another small but picturesque north Wales town, Llangollen, the third annual International Music Eisteddfod attracted singers, dancers and instrumentalists from 14 European countries as well as large audiences.

Welsh culture suffered a great loss by the death of Dr. T. Gwynn Jones, scholar, poet and writer of European stature, and Dr. T. Rowland Hughes, poet, novelist and radio feature writer. Exactly a century after the appearance of Lady Charlotte Guest's translation into English of the epic Welsh tales *The Mabinogion*, another version based on more authentic manuscripts was published after four years' work by Professor Gwyn Jones and Thomas Jones of Aberystwyth university college. (J. C. G. J.)

WAR CRIMES. Europe. The most important war crimes trials of 1949 ended April 14, when a U.S. tribunal at Nuremberg found 19 of 21 former German ministers and government officials guilty of planning aggressive war, war crimes and crimes against humanity. The sentences in this so-called "Wilhelmstrasse trial," which had proceeded for 17 months, ranged from 4 to 25 years in prison but time already spent in captivity was to be deducted from the terms. Otto Meissner, chief of the presidential chancellery, and Otto von Erdmannsdorff, ambassador to Hungary, were acquitted. Found guilty were Gottlieb Berger, chief of the S.S. main office; Edmund Veesenmayer, minister plenipotentiary; Hans Lammers, chief of the Reich chancellery; Hans Kehrl, chief of the armaments and war production planning office; Paul Korner, Goring's deputy for the four-year plan; Paul Pleiger, chairman of the Reich coal association, Lutz von Schwerin Krosigk, Reich finance minister; Wilhelm Keppler, Hitler's special economic adviser; Ernst Wormann, director of the political division of the Foreign Office; Richard Walther Darré, food and agricultural minister; Otto Dietrich, state secretary of the Propaganda Ministry; Karl Rasche, head of the Dresdner bank; Gustav Steengracht von Moyland, state secretary of the Foreign Office; Ernst von Weizsacker, ambassador to the Vatican; Walter Schellenberg, chief of the combined military intelligence service and S.S. official; Ernst Wilhelm Bohle, chief of the nazi party's foreign organization; Emil Puhl, vice-president of the Reichsbank; Karl Ritter, ambassador for special assignments, and Wilhelm Stuckart, state secretary Minister of the Interior.

The report of the United States military government in Germany for April 1949 described this trial as the "last of the Nuremberg War Crimes Cases." U.S. war crimes tribunals in Europe had tried 1,873 persons, of which 459 had been sentenced to death, 1,110 to prison and 304 acquitted.

The British government announced on May 5 that the charges against Field Marshal Karl von Rundstedt and General Adolf Strauss would be dropped, but Field Marshal Erich von Manstein would be tried. The trial of Manstein opened in Hamburg on Aug. 23. The prosecutor was Sir A. S. Comyns Carr, K.C, British prosecutor at the Tokyo trials. Manstein was defended by a member of the British bar, R. T. Paget, K.C. He was found guilty of having committed nine war crimes while leading German armies in Russia and on Dec. 19 was sentenced to 18 years' imprisonment. There would be no further war crimes trials in the British zone.

No application for extradition of war criminals had been accepted since Sept. 1, 1948, and none for traitors and collaborators since March 1, 1949. British war crimes tribunals in Germany had tried 937 persons, of which 230 had been sentenced to death, 447 to prison and 260 acquitted. The trial of Otto Abetz, German ambassador to the Vichy government, by a French military court resulted in his sentence to 20 years' hard labour on July 22. German courts were henceforth to be responsible for trials of crimes against humanity in western Germany whether involving German, Allied or United Nations persons.

Far East. The Far Eastern commission decided on Feb. 24 that there would be no further international military tribunals in the far east and recommended on March 16 and 31 that any further war crimes trials in national tribunals be decided upon by the end of June and concluded if possible before the end of Sept. 1949. The U.S. state department announced on Jan. 13 that the 11 former enemies of Japan, including the U.S.S.R., had agreed in 1945 to exempt the Japanese emperor from trial for alleged war crimes. The trials of Admiral Soemu Toyoda, chief of the Japanese naval staff, ending in his acquittal on Sept. 6, 1949, and of Osamu Satano, sentenced on Oct. 19, 1949, to five years' imprisonment for beheading, under orders, a captured U.S. airman, were the last U.S. trials in the far eastern area.



Field-Marshal Fritz Erich von Manstein on trial in Hamburg. The trial opened on Aug. 23, 1949, and on Dec. 19 he was sentenced to 18 years' imprisonment.

General Douglas MacArthur announced the end of war crimes trials on that date saying 4,200 Japanese had been convicted by seven Allied nations in the far eastern area and 720 had been executed. About 100,000 suspects had been questioned.

Statistics of Trials. The U.N. War Crimes commission had by the close of 1949 completed its work begun in 1943. It had published 15 volumes of *Law Reports of the Trials of War Criminals*. The final volume analyses the law and procedure in the 89 cases reported and 92 cases cited in this series. These cases were selected from 1,911 trial records received by the commission. The commission also published its own history with statistical data and critical analyses of the law and procedure developed in its own work and the work of the tribunals. The war crimes tribunals of the United States, Australia and western European countries held more than 2,000 trials about equally divided between the European and far eastern areas. These trials involved more than 6,000 persons resulting in about 1,500 death sentences, 3,500 prison sentences and 1,000 acquittals. Data on trials by the eastern European countries and China were lacking, but the numbers were probably no less. More than 10,000 persons of the axis powers were tried for war crimes and probably 80% were found guilty. The U.N. War Crimes commission examined more than 8,000 charges involving 36,000 persons and issued lists of more than 20,000 persons which it thought should be tried. These lists were probably incomplete and many listed were never tried. Lord Wright, chairman of the commission, expressed the opinion that if 10% of the actual war criminals were tried, the results would not be unsatisfactory.

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WAR PENSIONS. The burden of pensions to war disabled, war widows and servicemen's dependants continued to be serious in many countries of the world, World War II having increased the strain on national budgets in this respect. In Great Britain the number of pensions awarded for World War II was less than half that for World War I and in France it was about one-tenth; in the United States, on the other hand, there was a more than threefold increase. In the Soviet Union also the number of war disabled was certainly a great deal larger than after World War I, but no figures were published.

Great Britain. By March 31, 1949, 1,078,469 pensions were being paid, as compared with 1,112,908 a year earlier. Their categories are given in Table I.

TABLE I.—WAR PENSIONS IN GREAT BRITAIN IN PAYMENT ON MARCH 31, 1949

	Disablement	Widows'	Dependants'	Total
World War I and former wars	334,881	105,066	87,771	527,718
World War II				
Armed forces	380,599	73,272	48,481	502,353
Mercantile marine, etc.	5,183	8,634	4,578	18,395
Civil defence, etc.	17,680	9,993	2,331	30,004
Total	738,343	196,965	143,161	1,078,469

The estimated total expenditure of the Ministry of Pensions in the financial year ended March 31, 1949, was £89,914,500 (3·1% of the total budget expenditure) bringing the total cost of war pensions since Aug. 4, 1914, to £1,930 million. Expenditure in 1948-49 was £825,982 greater than in the previous year. Details of expenditure and a comparison with earlier years are given in Table II.

TABLE II.—WAR PENSIONS EXPENDITURE IN GREAT BRITAIN
(in £ sterling)

Fiscal Years	World War I	World War II	Medical Services	Miscellaneous	Administration	Total
1939-40	36,416,258	64,311	999,581	10,664	747,547	38,238,361
1943-44	32,518,543	14,771,928	2,013,451	26,470	2,017,302	51,347,694
1947-48	35,794,960	45,606,972	3,885,286	56,537	3,744,763	89,088,518
1948-49*	35,383,000	46,165,000	4,502,000	45,500	3,819,000	89,914,500

* Estimated.

Because, by 1949, the basic pension for a totally disabled ex-serviceman was 45*s.* a week, only 5*s.* more than in 1919, the British legion and other kindred associations launched a campaign to double the pensions and bring them into line with doubled prices and wages. On April 26, E. R. Bowen, Liberal member for Cardigan, submitted a motion asking the House of Commons to agree that "it is desirable that a royal commission shall be set up to inquire into the present position relating to war pensions and allowances and as to their adequacy under prevailing conditions." The motion was rejected by the house by 307 votes to 149.

On May 24, however, a new royal warrant was issued (Cmd. 7699) making further provision concerning retired pay, pensions and other grants for disabled members of the forces and of the nursing and auxiliary services, and for the widows, children, parents and other dependants of such members who had died in consequence of service after Sept. 2, 1939. Two other royal warrants—of May 30, 1949, (Cmd. 7712) and May 31, 1949, (Cmd. 7711)—extended the new provisions to pensioners of World War I and the Home guard respectively.

United States. In the budget estimates for the year 1950-51 a total of $6,080 million, one-seventh of all expenditure,



War disabled from most parts of England at the second annual rally in July 1949 of the Invalid Tricycle association. Over 500 members attended the rally which was held in Richmond park, Surrey.

was earmarked for veterans' services and benefits. The size of these requirements reflected a five-fold increase since 1939 in the number of veterans and new re-adjustment benefits provided for veterans of World War II, as well as increases in rates of benefit and in general services to veterans. Most of these expenditures were not controllable by the ordinary appropriation process. Expenditure depended largely on how many of the U.S. 19 million living veterans and how many dependants of deceased veterans applied and qualified for aid under some 300 laws. The variable impact of veterans' programmes on the budget was indicated by the fact that expenditure for the year 1949-50 was estimated by December at $1,400 higher than a year earlier.

France. At its general assembly in Paris, on Feb. 5-6, 1949, the Union Française des Associations des Combattants passed a resolution asking the parliament and the government to re-establish the relationship existing between war pensions and civil service pay before World War II and to keep it in line with the cost of living. Another resolution asked for a fivefold revaluation of the ex-serviceman's gratuity (*retraite du combattant*).

In order to keep up with the constantly rising cost of living, or depreciation of money, pensions had been increased 450% (1938=100) in July 1947; further increases in Feb. 1948 had brought the pensions to the index number 600 and in April 1949 to 690. The latter increase meant an additional yearly expenditure of Fr. 3,600 million. French ex-servicemen, however, were not satisfied as the general price index number stood in April 1949 at above 1,700 (1938=100).

Established by law on April 16, 1930, the ex-serviceman's gratuity had been fixed at Fr. 530 per annum from the age of 50 and Fr. 1,272 per annum from the age of 55 and there had been no subsequent re-adjustment. On Dec. 8, 1949, the premier, Georges Bidault, told the National Assembly that an increase by 500% would cause an additional yearly expenditure of Fr. 10,000 million. The problem was still being discussed at the end of the year.

In the 1950 budget estimates a sum of Fr.25,659 million (1·16% of the total ordinary expenditure) was earmarked for 1,185,560 war pensions, including 815,863 for the disabled of World War I, 285,696 for those of World War II and 84,001 for disablement caused other than in war operations.

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WAR PRISONERS: *see* PRISONERS OF WAR.

WARSAW, capital of Poland. Area: 54 sq. mi. Pop. (Sept. 1, 1939) 1,289,000; (Jan. 20, 1945 est.) 155,000; (July 1, 1949) 617,949. Budget (1950 est.): revenue Zł.3,497 million; expenditure Zł.6,730 million. President of the city (lord mayor), Stanisław Tołwiński.

History. Reconstruction of the capital continued during 1949 on a larger scale than in the previous year, employing nearly 50,000 builders. In the centre of the city traditional Polish architecture, mainly 18th century, was being preserved. On June 23, a new railway bridge and a new tunnel under Sikorski (formerly Jerusalem) avenue were re-opened to traffic. The inauguration on July 22 of a new east-west thoroughfare, with a tunnel under the old town, and a modern bridge, was attended by the Soviet Marshal Konstantin Rokossovsky (*see* POLAND). The construction of a north-south artery on the axis of Marszałkowska street made great progress. Buildings restored during the year included the National theatre, and among monuments which also underwent restoration was that of King Sigismund III Vasa. By the end of the year the total volume of Warsaw buildings was estimated at 44 million cu. m., that is, 43% of the pre-1939 living-space. Of this total 18 million cu. m. represented restored and new buildings. Before World War II there were in Warsaw about 80 cu. m. of building space per inhabitant, including 54 cu. m. for dwelling houses; by the end of 1949 the respective figures were approximately 70 and 50 cu. m.

WASHINGTON, DISTRICT OF COLUMBIA, federal capital of the U.S. Area: 61 sq. mi. Population (mid-1949 est.) 870,000. During World War II and postwar years the population spread in increasing numbers into the neighbour

states of Maryland and Virginia. Many federal buildings, including the famous Pentagon, were located outside the district limits. The comprehensive plan of Washington, which was to be completed in 1950, treated the entire region. Legislation pending at the close of 1949, would enlarge the National Capital Park and Planning commission to include members appointed by the governors of Maryland and Virginia, and would bring all plans for public buildings and grounds before the Commission at an early stage.

During 1949 enough apartment buildings were completed or under construction to bring some relief to the housing congestion in 1950. The Pan American Office building on Constitution avenue was completed in 1949. The White House had been dismantled and was being rebuilt.

The budget for the District of Columbia, year ending June 30, 1950, amounted to $110 million, of which about $15 million was for city improvements. During 1949 a sales tax of 2% on many commodities came into effect and about $4 million was collected in four months; the estimated total for 1950 was $14 million.

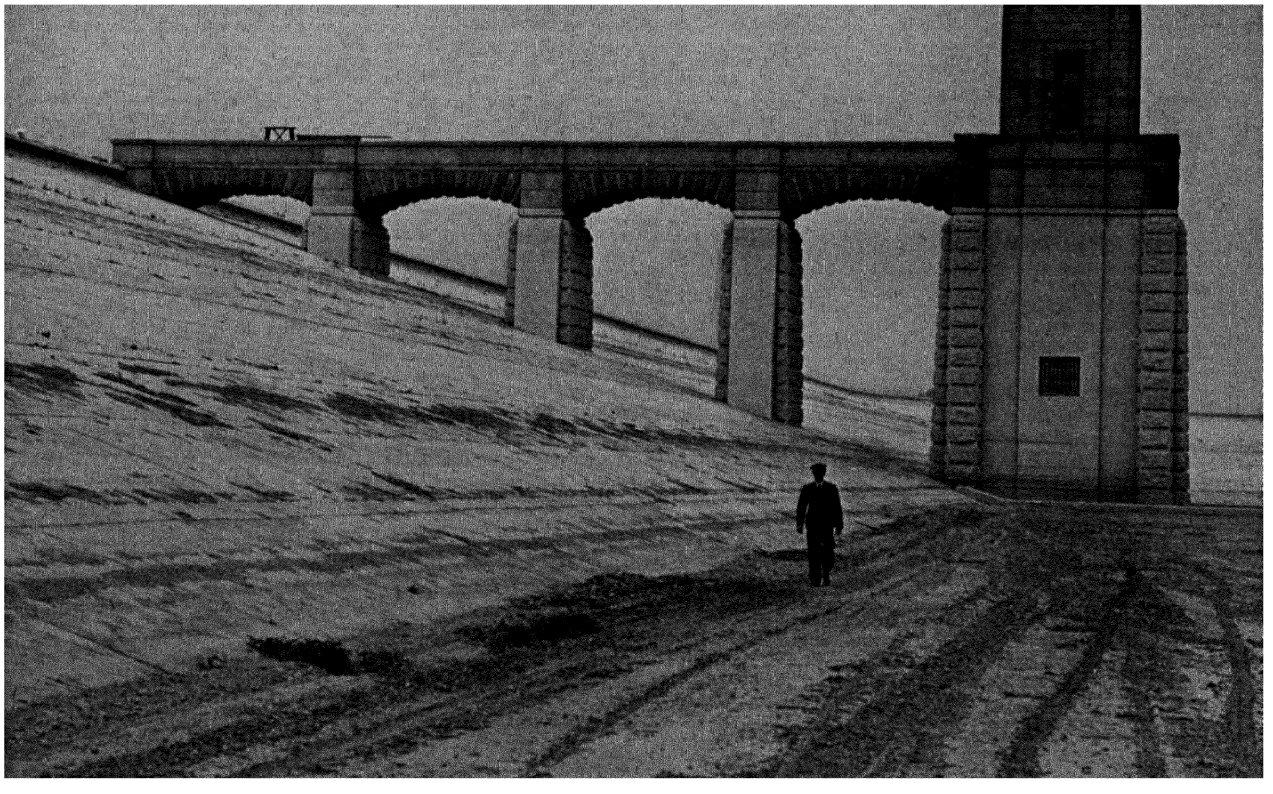
A bill was introduced into the 81st congress to provide for a constitutional amendment under which the residents of the District of Columbia would be permitted to vote for representation in congress, which, under the constitution, was responsible for all legislation for the District of Columbia.

WATER SUPPLY. The summer of 1949 in Great Britain was the driest after 1921 and the sunniest after 1933 and consequently numerous water undertakings experienced difficulty in maintaining a continuous supply of water to their consumers and many found it necessary to introduce restrictions of the use of water. Cattle had to be moved to better pastures and in east London, where a ration of four gallons a person a day was imposed, drinking water had to be sent to the port by sea. Citizens were compelled to use sea water for dish-washing and sanitation and some even experimented with it for cooking purposes.

Although there was a general shortage throughout the country, the most affected areas were southwest and northeast England. In the Tynemouth area, stop taps of consumers were regulated to allow only a small trickle and foreign vessels engaged in shipping on the river Tyne were asked to bring water for their own needs from their home ports. The Tees Valley Water board, in conjunction with Imperial Chemical Industries, carried out rain-making experiments by dropping solid carbon dioxide from aircraft onto suitable cloud formations. Although on two occasions rain was produced, the benefit was found to be slight. Fortunately rain came towards the end of October and the situation was relieved.

Not only in Great Britain but in Europe and in other parts of the world severe drought conditions were experienced. In Africa the effects were serious from the Cape of Good Hope to Kenya and many government feeding schemes were introduced to avert famine.

Many new schemes under construction in Great Britain were retarded because of shortages of labour and materials but good progress was made with the construction of new waterworks for the island of Anglesey, the Claerwen dam for Birmingham, the Digly reservoir for Huddersfield and the Blithfield reservoir for south Staffordshire. Darwell reservoir for Hastings was completed and work began on the construction of reservoirs for Northallerton, Wakefield and Swansea. The proposal by the Metropolitan Water board to construct



The King George VI reservoir at Staines, Middlesex, during the dry summer of 1949. The normal water evel of the reservoir, which has a capacity of 4,450 million gallons, is at the top of the banks.

a reservoir in the Enborne valley near Reading was abandoned in October, as investigations on the biological aspects had shown that thermal stratification of the water was likely to occur in the deeper parts of the reservoir which would render the lower stratum unsuitable for the board's purposes. The Water board consequently decided to proceed with the construction of the reservoirs at Walton, Wraysbury and Datchet, for which powers had previously been obtained. A new method of super-chlorination was introduced by the Metropolitan Water board which led to improvements in the bacterial quality of the water supplied to the London area, in a reduction of colour and in a complete cessation of chlorinous tastes. By eliminating all pre-chlorination in the Thames valley it was estimated that running costs would be reduced by at least £10,000 a year.

The Ministry of Health continued to publish reports dealing with the water resources of various parts of the country to provide a basis of discussion which might lead to the improvement of water supply in those areas. Reports were issued covering south Wales in which it was suggested that 15 boards should be constituted to replace the 51 existing water undertakings. In Norfolk 21 new statutory water undertakings were recommended to replace the 37 existing authorities. New water boards were constituted during the year for dealing with the provision of water for east Shropshire, mid-Northamptonshire, Northallerton and district, Stafford and the adjacent rural area and the new satellite town of Crawley in conjunction with other authorities in east Sussex. Public attention was focused on the question of nationalizing water supplies, particularly in rural areas where the provision of a supply could not be undertaken on an economic basis.

The first general assembly and congress of the International Water Supply association, set up in 1947 by delegates from Great Britain, France and the Netherlands, was held in Amsterdam in September and was attended by delegates from about 20 countries.

Agreement was reached between the British and Egyptian governments for the construction of a dam at Owen falls, Uganda, for the control of the Nile waters, as part of a major scheme to ensure a regular supply of water for Egypt and the Sudan. Progress was made in dealing with the problem of water shortage in Malta, involving the repair of reservoirs damaged during World War II, the sinking of boreholes and the construction of underground collecting galleries. The completion of a reservoir in the Waitakere ranges, near Auckland, New Zealand, was announced, which would provide water for a million people. The first stage of Kimberley's new waterworks came into operation in June, which provided an extra 1,250,000 gal. a day for the city. A new aqueduct constructed at a cost of Rs. 5·5 million and capable of supplying an additional 32 million gal. a day, for Madras, India, was opened in October. (J. KD.)

United States. World shortages of water in 1949 represented a continuation of the difficult experiences of the winter of 1947-48. In many countries the high summer temperatures and rainfall deficiencies of 1949 heightened the problem. Perhaps the most significant evidence of this difficulty was the shortage in the New York metropolitan area, still persistent by the end of the year. With the largest water consumption in the world, somewhat more than 1,000 million gal. a day, the New York area found itself with a reserve which would only last 60 days, if the low rainfall conditions of the autumn continued during the early part of 1950. Less than 35% of the potential capacity of its storage reservoirs was available by the end of the year.

The importance of this phenomenon could not be overestimated, since it pointed to the necessity for setting planning stakes many years ahead in the provision of water supply.

The rapid expansion of the nuclear fission industry resulted in the development of new radio-active materials and wastes. There was rapid progress in the understanding and detection of liquid, solid and gaseous wastes from the atomic energy industry and the methods for reducing these wastes. Much research was in progress to develop and improve methods and instruments for detecting radiation in air and in water. The North American National Committee on Radiation Protection was preparing to announce its recommendations on the maximum safe limits of radioactivity in water and air. The International Labour office promulgated tentative permissible limits for radiation. The training of public health engineers in nuclear fission was initiated.

The addition of fluorides to public water supplies for the prevention of dental caries in children was still arousing a great deal of lay and official interest. By the end of 1949 about 17 fluoridation installations were in operation in nine states in the United States. Fourteen additional ones had been approved, and 20 more were under consideration.

WEALTH AND INCOME, DISTRIBUTION OF. In the course of 1949 estimates of the distribution of incomes between persons were published for only four European countries, which publish this material annually: Denmark, Finland, Sweden and the United Kingdom. For Denmark, Finland and Sweden estimates of the distribution of capital between persons were also given.

The distribution of incomes in the United Kingdom for 1947 was given in the White Paper on national income. The official estimates have to be supplemented by an estimate for the number of incomes in the lowest group which could be made with reference to the estimated total number of income recipients; the distribution still suffered from the defect of not giving sufficient detail for the lowest and largest group. The general tendency, in comparison with 1946, was a shift from lower to higher income groups without changing the number of incomes over £1,000. The distribution of incomes after income tax and surtax, also given, was much more even, to about the same degree as in previous years; it must be remembered that indirect taxes, for which no allowance was made, were of a repressive nature. (*See* Table I.)

TABLE I.—DISTRIBUTION OF INCOMES IN THE UNITED KINGDOM, 1947

Range of incomes (in £)	Number of incomes (in thousands)	Amount of income before tax (in £ million)	Amount of income after income-tax and surtax (in £ million)
Under 250	(13,000)	2,480	2,447
250-500	7,900	2,690	2,470
500-1,000	1,850	1,224	992
1,000-2,000	485	654	464
2,000-10 000	165	597	320
10,000 and over	10	184	43
Total	(23,500)	7,829	6,736
Unallocated private income		1,743	1,207
	Total	9,572	7,943

Notes. Unallocated private income includes the undistributed profits of companies, company taxation, and any other income which cannot be allocated to individuals. Figures do not add to total shown, owing to rounding.

Source. *National Income and Expenditure of the United Kingdom, 1946 to 1948* (H M.S.O. Cmd. 7649). Figures in brackets private estimates.

The latest Danish statistical yearbook gave distributions of both income and capital for 1947–48. In Denmark also, a general shift from lower to higher ranges of both income and capital was noticeable in comparison with 1946. (*See* Table II.)

In Finland, the latest statistical yearbook gave more detailed estimates relating to the distributions of both income and capital in 1945 and showed these distributions after tax.

TABLE II.—DISTRIBUTION OF INCOMES AND CAPITAL IN DENMARK, 1947-48

Range of incomes (in kroner)	Number of income recipients (in thousands)	Range of capital (in kroner)	Number of estates (in thhusands)
Under 1,000	158	0	813
1,000-2,000	347	Under 4,000	459
2,000-5,000	894	4,000-10,000	365
5,000-10,000	514	10,000-20,000	163
10,000-20,000	81	20,000-100,000	186
20,000-50,000	17	100,000-500,000	26
50,000 and over	3	500,000 and over	2
Total	2,014	Total	2,014

Total income: KR 8,812 million. Total capital: KR. 20,174 million. Notes £1 = KR 19·32. All persons liable to assessment (persons over 18) included. Source. *Statistisk Aarbog* 1948.

TABLE III.—DISTRIBUTION OF INCOMES IN FINLAND, 1945.

Range of incomes (in thousand Mk.)	Number of income recipients (in thousands)	Amount of income (in million Mk.)	Tax on income (in million Mk.)
15-30	193	4,465	128
30-60	460	19,992	1,030
60-90	247	17,944	1,211
90-180	134	15,442	1,517
180-360	17	4,004	650
360-540	2	995	211
540 and over	1	1,211	348
Total	1,054	64,052	5,094
Non-personal income		16,483	4,349
Total		80,535	9,443

Notes. £1 = Mk. 550. Figures do not add up to total shown, owing to rounding. Source. *Suomen Tilastokinen Vuosikirja*, 1948.

TABLE IV.—DISTRIBUTION OF CAPITAL IN FINLAND, 1945.

Range of capital (in thousand Mk.)	Number of estates (in thousands)	Amount of capital (in million Mk.)	Tax on capital (in million Mk.)
100-300	110	20,460	47
300-600	72	30,434	84
600-1,200	45	37,155	133
1,200-2,700	20	33,788	196
2,700-7,200	5	20,604	208
7,200-18,000	0·8	8,783	129
18,000 and over	0·3	9,098	166
Total	253	160,322	962
Non-personal capital		76,601	602
Total		236,923	1,564

Notes and source. *See* Table III.

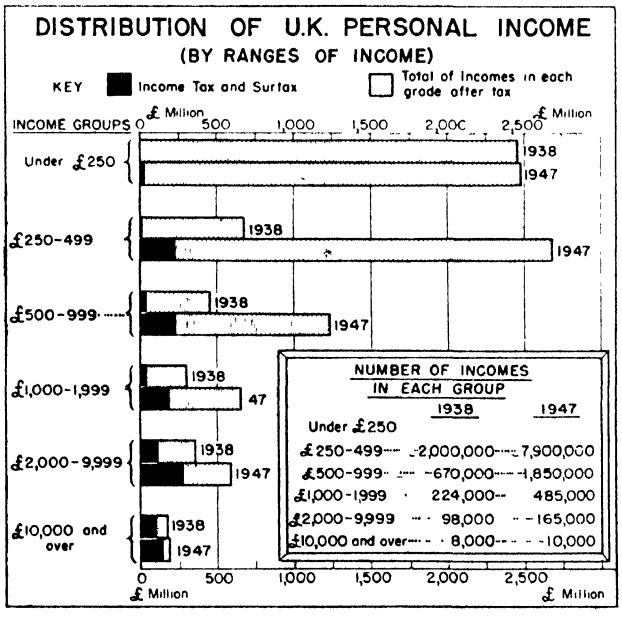


TABLE V.—DISTRIBUTION OF INCOMES IN SWEDEN, 1947.

Range of Incomes (in kronor)	Number of income recipients (in thousands)	Amount of incomes (in Kr. million)
600-1,000	178	144
1,000-2,000	521	778
2,000-5,000	1,353	4,712
5,000-10,000	964	6,434
10,000-20,000	182	2,374
20,000-50,000	37	1,042
50,000 and over	5	475
Total	3,241	15,958

Notes. £1 = KR 14 47 Figures do not add up to total shown, owing to rounding. Source *Statistisk Arsbok for Sverige*, 1949.

TABLE VI - DISTRIBUTION OF CAPITAL IN SWEDEN, 1945.

Range of Capital (in kronor)	Number of estates (in thousands)	Per cent
0	2,049	62
1,000-5,000	447	14
5,000-10,000	269	8
10,000-20,000	234	7
20,000-30,000	100	3
30,000-50,000	83	3
50,000 and over	88	3
Total	3,269	100

Total capital. Kr. 25,103 million. Notes and source. *See* Table V.

Both series exhibited the very progressive nature of taxation in Finland. Taxes on income rose from 3% in the lowest group to 30% in the highest, and taxes on capital from 0 2% to 1·8% which also took away a high proportion of the annual return on capital. The heaviest rates seemed to apply to incomes and capital other than those falling under personal taxation. (*See* Tables III and IV.)

The latest Swedish statistical yearbook gave the distribution of income for 1947. As in the countries previously mentioned, there was in Sweden a definite shift from the ranges under Kr. 5,000 to those above this limit but with a fall in the highest range, above Kr.50,000. (*See* Table V.)

The distribution of capital was published for Sweden in 1945—the first time since 1930. The data showed that about two-thirds of the occupied population had no capital, and there were only 271,000 estates over Kr.20,000 (8% of the occupied population). (*See* Table VI.) A distribution for estates over Kr.20,000 was available only for 1947.

(T. BAR.)

United States. A survey of consumer finances in the U.S., published in 1949 by the board of governors of the Federal Reserve system, supplied information on the distribution of income in 1948 and liquid assets in early 1949. Three previous surveys had made similar information available for the period 1945-47. The surveys were based on small field canvasses of consumer spending units, defined as "all persons living in the same dwelling and related by blood, marriage or adoption who pooled their incomes for their major items of expense." Data on the percentage distribution of spending units according to size of holdings of liquid assets—U.S. government bonds, savings accounts, and checking accounts—are provided in Table VII.

The 1949 distribution did not differ substantially from the pattern of earlier postwar years. Over the 1946-49 period, however, there was an appreciable increase in the proportion of spending units having no liquid assets. About 14·5 million spending units, or 29% of the total number in the U.S., had no liquid assets in early 1949.

Table VIII summarizes data provided by the four consumer-finance surveys on the distribution of spending units and total money income according to size of income. These data reveal a significant upward movement in the income distribution since World War II. This was an extension of developments in evidence over the war period. The postwar

expansion of total money income was accompanied by a shifting of many consumers to higher income levels. This shifting, it should be emphasized, pervaded the entire income distribution. The surveys found that when the nation's spending units were classed into tenths by size of income there were only slight changes from 1945 to 1948 in the proportionate share of total money income received by each tenth.

TABLE VII.—DISTRIBUTION OF SPENDING UNITS BY SIZE OF LIQUID ASSET HOLDINGS

Amounts of liquid assets held*	1946	1947	1948	1949
None	24%	24%	27%	29%
$1—$199	15	14	15	16
$200—$499	14	12	13	13
$500—$999	14	14	12	11
$1,000—$1,999	14	14	12	11
$2,000—$2,999	7	7	6	5
$3,000—$4,999	6	7	6	7
$5,000—$9,999	4	5	5	5
$10,000 and over	2	3	4	3
All units	100%	100%	100%	100%
Median holdings of all units	$400	$470	$350	$300
Median holdings of those with assets	$750	$890	$820	$790

* Includes all types of U S government bonds, checking accounts, and savings accounts in banks, postal savings and shares in savings and loan associations and credit unions. Excludes currency holdings Data for 1949 do not include shares in credit unions, but these are relatively small in the aggregate and not likely to affect totals significantly

SOURCE Board of governors of the Federal Reserve system.

TABLE VIII —PERCENTAGE OF MONEY INCOME RECEIVED BY EACH FIFTH OF FAMILIES AND SINGLE PERSONS

Families and single persons, lowest to highest income brackets	1935-36	1941	1948
Lowest fifth	4·0%	3 5%	4 2%
Second fifth	8·7	9 1	10 5
Third fifth	13·6	15 3	16·1
Fourth fifth	20 5	22·5	22·3
Highest fifth	53·2	49 6	46 9
All groups	100 0%	100 0%	100 0%

SOURCE Council of Economic Advisers, based on survey data from National Resource Planning board (1935-36), Department of Labour (1941), and Bureau of the Census, Department of Commerce (1948)

A longer-term comparison of changes in the distribution of income is afforded by Table IX. This shows for two pre-war years and the full-employment year of 1948 the percentage of money income going to each fifth of the total number of families and single persons, ranging from those with the lowest incomes to those with the highest.

TABLE IX.—DISTRIBUTION OF SPENDING UNITS AND MONEY INCOME RECEIVED BY INCOME GROUPS

Annual income (money income before taxes)	1945 Spending units	1945 Total money income	1946 Spending units	1946 Total money income	1947 Spending units	1947 Total money income	1948 Spending units	1948 Total money income
Under $1,000	20%	5%	17%	3%	14%	2%	12%	2%
$1,000-$1,999	27	16	23	12	22	10	18	8
$2,000-$2,999	23	23	25	21	23	17	23	16
$3,000-$3,999	15	20	17	20	17	18	20	20
$4,000-$4,999	7	12	8	13	10	13	12	14
$5,000-$7,499	5	11	6	11	9	16	10	17
$7,500 and over	3	13	4	20	5	24	5	23
All units	100%	100%	100%	100%	100%	100%	100%	100%

SOURCE. Board of governors of the Federal Reserve system

It was evident that from 1935-36 to 1948 there was a redistribution of income in the United States away from the highest income bracket. The second, third, and fourth income brackets significantly improved their relative positions, whilst the percentage of total money income received by the highest bracket declined from 53 to 47. (*See* also BUDGET, NATIONAL; NATIONAL INCOME; TAXATION.) (C. F. Sz.)

WEIZMANN, CHAIM BEN OZER, Israeli statesman (b. Motol, near Pińsk, in the then Russian part of Poland, Nov. 27, 1874). (For his early career see *Britannica Book of the Year 1949*).

On May 17, 1948, he announced in New York that he had accepted an invitation from the Israeli provisional government to serve as first president of Israel. On Oct. 1 he surrendered his British passport and took the oath to the state of Israel. Opening on Feb. 14, 1949, in Jerusalem, the first Constituent Assembly (Knesset) of Israel, he emphasized that the new state was being built on solid foundations of freedom, equality, collective responsibility and national self-discipline. On Feb. 16 he was formally elected president of the republic by 83 votes to 15 cast for Professor Joseph Klausner, the nominee of the Nationalist party; 15 deputies returned blank votes. In the spring he visited the United States where on April 23 in a speech at New York he pledged his country to accept the fullest international safeguard for the immunity and protection of the Holy Places in Jerusalem. He also visited Washington and was received by President Harry S. Truman. Later in the year he went to Switzerland for eye treatment. On Sept. 12 he received an honorary degree from the University of Fribourg where 50 years before he had been a student, and was also honoured by the canton and city of Fribourg. He returned to Israel early in October.

WELLINGTON, capital of New Zealand, on the southwestern shore of the North Island. Pop. (1948 est.): 131,000 (189,000 with suburbs). Mayor, W. Appleton.

For the city area in the financial year 1948-49, the total revenue was £3,316,146 and the expenditure £3,404,834. The largest items were the municipally controlled milk supply (revenue £1,000,754, expenditure £1,000,598); the transport services (£638,205, £728,268); and the electricity supply (£568,315, £563,865). Internal loans totalling £346,000, mainly for drainage and housing, were raised or renewed during the financial year. The capital value of the city rose to £51,142,048, and the number of buildings in the city to over 30,000. The volume of trade handled in the port of Wellington (year ended Sept. 30, 1949) was 2,161,048 tons; and shipping tonnage amounted to 3,295,128 tons. The latest figures available (year ended Sept. 30, 1948) valued exports at £34,768,592, and imports at £52,070,439; the main commodities exported were wool, frozen meat, dairy produce and fruit.

Apart from a large residential block for nurses at the Public hospital, Newtown, no large public buildings were opened. Building controls curtailed the erection of other than private dwellings but some of the leeway in the severe housing shortage was made up.

In May, Victoria University college, Wellington's constituent college of the University of New Zealand, celebrated its golden jubilee. (R. W. B.)

WEST AFRICA, BRITISH: *see* BRITISH WEST AFRICA.

WESTERN UNION—the defensive, economic and cultural association established between five western European countries (Belgium, France, Great Britain, Luxembourg and the Netherlands) under the treaty of Brussels signed on March 17, 1948—served during 1949 as the point of departure for the North Atlantic treaty (*q.v.*) and the Council of Europe (*q.v.*), but retained a corporate existence independent of either.

The North Atlantic treaty arose out of Western Union negotiations with the U.S. and Canada, which at one time seemed to aim at a transatlantic extension of Western Union. In the end, however, they resulted in the creation of a completely independent and partly overlapping defence system of its own.

Similarly, the Council of Europe arose out of the French and Belgian desire to transform Western Union from a mere alliance between sovereign states into a politically integrated

federation or confederation. The preparatory work for its statute was done by a special committee, meeting under the auspices of Western Union in Paris from Nov. 26, 1948, to Jan. 20, 1949; the decision to establish a Council of Europe, consisting of a committee of ministers meeting in private and a consultative assembly meeting in public, was taken at a meeting of the consultative council of ministers of Western Union in London on Jan. 27-28, 1949. The outlines of the constitution of the Council of Europe were also still drawn up by the permanent commission of Western Union in Feb. 1949. However, the further and detailed negotiation of the actual constitution of the new body passed to the wider circle of countries which were ready to join the Council of Europe without wishing to join Western Union; and all further direct connection between the two organizations ceased.

For the rest, the main achievements of Western Union during 1949 were military. The work of merging the defence policies of the five treaty partners and co-ordinating their armed forces made steady progress. In the early days of the year, the commanders in chief committee appointed in the autumn of 1948 established its headquarters at Fontainebleau (France) and started practical work under the chairmanship of Viscount Montgomery of Alamein. The first joint peacetime naval exercises of the Western Union powers were held in the Bay of Biscay and the English channel from July 4-7, 100 warships and 22,000 men being engaged. After a U.S.-British air exercise over Britain from June 25-July 3 had seen some Western Union participation, the first full-scale Western Union air exercise took place in the Orléans region of France on Oct. 28. Agreement on a common defence plan had already been announced on April 8.

On Nov. 7, the Western Union powers signed a social security convention, under which each of the five countries would treat nationals of the other four like its own nationals in respect of social security benefits and medical assistance.

(S. Hr.)

WEST INDIES, BRITISH: *see* BAHAMAS; BARBADOS; BRITISH WEST INDIES; JAMAICA; LEEWARD ISLANDS; TRINIDAD AND TOBAGO; WINDWARD ISLANDS.

WHEAT. The wheat crop in 1949 was good though in general below the 1948 crop. Only in comparatively few cases, however, did the yields of individual countries exceed the prewar averages, two notable exceptions being provided by Great Britain and Canada, and even here the yield was rather below the 1948 figure. The Italian crop returns for wheat during 1949 showed a significant increase over the 1948 figures but this still did not come up to the prewar average. The reduction in yield compared with 1948 was attributable in part to the abnormally dry conditions that prevailed for such a long period during 1949. This did not lead to such a serious decline as in the case of root crops, wheat being moderately tolerant of drought, but it nevertheless was the occasion of some anxiety to wheat growers, particularly in Australia and South Africa.

Much work on the improvement of wheat varieties was carried out in 1949. In Canada, Australia and to a lesser extent Kenya resistance to rust and in particular to new strains of rust was one of the principal breeder's objectives. Several new rust-resistant varieties were introduced into cultivation. Straw strength was another character that was the object of much attention. Both in Sweden and Kenya new strains of wheat were tested for strength of straw and in Italy some new varieties with improved resistance to lodging by wind were distributed. Work on the improvement of the overwintering capacity of autumn-sown wheats was principally carried out in Sweden where Finnish wheat strains were utilized; some work along these lines was also done in Canada. Two other problems were tackled in Canada, attack by smut and infestation by the sawfly; in both cases new resistant strains were sought. In India drought resistance remained one of the principal breeding objectives and in New Zealand new varieties combining high yield with greatly improved baking quality were distributed.

Much publicity was given to the claims made in the U.S.S.R. for the spectacularly high yields obtained from a wheat with branched ears. This wheat appeared to be related to a form known for many years past in western Europe as a curiosity capable of producing high yields under garden conditions but of little value under normal farming conditions. Further information about the performance of the Russian wheat under field conditions was desirable before coming to a conclusion as to its economic value.

The hybrids between wheat and grasses of the genus *Agropyron*, the so-called perennial wheats, were much less in the news in 1949. In the U.S.S.R. the work of Tsitsin, the pioneer of perennial wheat, was criticized as economically valueless. Elsewhere, especially in Canada, South Africa and Italy, wheat *Agropyron* hybrids were studied extensively; it seemed that although these hybrids might prove of value as forage crops their value as cereals was dubious. (R. H. Ri.)

WORLD WHEAT PRODUCTION, REVISED ESTIMATES *
(In million bushels)

	1949	1948	1947	Average 1935-39
United States	1,146	1,314	1,367	758
Canada	367	393	342	312
Mexico	17	18	16	14
Europe	1,465	1,455	1,005	1,595
Great Britain	80	88	62	62
North Africa	126	114	100	120
Union of South Africa	17	18	18	16
Asia	1,480	1,593	1,526	1,499
Argentina	210	191	245	222
Australia	190	190	220	170
U.S.S.R.	1,100	1,025	850	1,240
World Total	6,185	6,385	5,780	6,015

* Revised estimates by the U.S. Department of Agriculture on basis of incomplete reports from several countries with adjustments for year of harvest, and including allowance for missing data and forecasts for crops being harvested.

The world wheat crop of 1949 was estimated at 6,185 million bu., compared with 6,385 million bu. in 1948 and a prewar average of slightly more than 6,000 million bu. in 1935-39. Practically all of the decline, as compared with 1948, was accounted for by North America, particularly the U.S., although the spring wheat crop of Canada showed a substantial decline also.

United States. The U.S. wheat crop of 1949 which amounted to 1,146,463,000 bu. was the sixth consecutive crop of more than 1,000 million bu. Nevertheless, it was a disappointment in that, from a record planted acreage of 84,931,000, about 6 million more than for 1948, the harvest was 13% less than the 1,313,534,000 bu. of 1948. The 76,751,000 ac. harvested gave a yield of only 14·9 bu. per ac., compared with 18 bu. per ac. (on 73,017,000 harvested acres) in 1948, and an average yield for 1938-47 of 16·6 bu.

The 1949 winter wheat crop of 901,668,000 bu. was the third largest on record, exceeded by the 1,007,863,000 bu. of 1948, and the record 1,068,048,000 bu. in 1947. Yields averaged only 16·3 bu., well below the 18·8 bu. of 1948, and an average for 1938-47 of 17 bu.

Spring wheat production, mostly in the northern Great Plains, was estimated at 244,795,000 bu., 20% less than the 305,671,000 bu. of 1948, and 8% below the average of the previous decade. The 21,298,000 harvested acres, the largest since 1932, represented a 9% increase over 1948, and 23% larger than for the decade. Yields were cut sharply by drought and accompanying hazards to an average of 11·5 bu. per ac.,

compared with 15·7 bu. in 1948, and 15·4 bu. average for 1938-47.

The wheat situation at the end of 1949 in summary was: carryover stocks of 305,773,000 bu. plus the 1949 harvest of 1,146,463,000 bu. provided a total supply of 1,452,236,000 bu. (against 1,484,106,000 bu. total supply the year before). Domestic requirements during 1949-50 were estimated at about 700 million bu. (food 487 million; seed 83 million; feed 130 million). Thus, 752 million bu. appeared to be available for export and reserve stocks. It was expected that stocks on July 1, 1950, would be at least 350 million bu. and might be nearer 400 million bu. (*See* also FLOUR.) (J. K. R.)

WILD LIFE CONSERVATION. Interest in the conservation of wild life was brought to a focus at the International Technical Conference on the Protection of Nature convened by U.N.E.S.C.O. and held at Lake Success, New York, from Aug. 22-27, 1949, simultaneously with a United Nations Scientific Conference on the Conservation and Utilization of Resources. These two conferences invited the International Union for the Protection of Nature, founded in 1948, to collect from technically qualified people reports on various aspects of the problem of the conservation of nature. One hundred and fifty reports were received containing on the whole an important mass of well informed comment which constituted the basis of the discussions at the conference.

Neither France, Great Britain nor the United States had as yet given official support to the union and were only represented by private organizations. It was hoped, therefore, that by combining the two conferences and thus emphasizing the close connection between the protection of wild life, fauna and flora and the utilization of resources such as soil, water and climate that these and other governments would be persuaded to take a more active interest in conservation than they had previously shown. The conference was also valuable in that it served to sort out to some extent the confusion caused by the multiplicity of national and international organizations working in overlapping fields. Credit for its success was partly due to the ability and enthusiasm of the general secretary, Dr. Jean-Paul Harroy.

The conclusions of the Technical conference were embodied in 23 resolutions, drawing up an ambitious programme of work for the future. The necessity for extensive and intensive ecological studies was emphasized in which each selected area would be treated as a total dynamic ecological situation including all possible factors such as soil, water, food, climate, plants, animals and the people concerned, with special emphasis on their interrelationships. It was suggested that the results should be published not only in technical form for specialists but in popular form in several languages for the general public. Various resolutions were concerned with the need for education, particularly of the young, through schools and youth movements. Several were devoted to the importance of ecological studies in close connection with various projects for the agricultural development of undeveloped land; others urged precaution in the use of insecticides with a view to protecting the equilibrium of nature and preventing the destruction of animal and plant communities and warned against rash experiment, including the introduction of exotic species.

Among the subjects more specifically covered by the resolutions were the protection of species of animals and plants threatened with extinction, an approach to the government of India urging measures for the protection of the great Indian one-horned rhinoceros, another to the government of the United Kingdom suggesting that a further conference should be summoned to report progress under the African convention of 1933, and yet another to the French government requesting that appropriate measures be taken for the protection of the Camargue reserve at the Rhone delta. The conference had no authority to implement these resolutions but hoped that effect would be given, through appropriate channels, to its recommendations.

In British Africa informal conferences between Game departments were held and scientific research into such problems as game-borne diseases continued. Where the policy of national parks had been accepted delay in giving it effect was still caused by difficulties over boundaries and native reserves. In India the existing legislation for the protection of nature was undergoing revision. In Great Britain the Nature Conservancy was founded by Royal Charter to advise the government on establishing nature reserves and to carry out necessary researches in connection with them. The National Parks and Access to the Countryside bill introduced in parliament in March proposed to confer upon the Nature Conservancy considerable powers to acquire land for the creation of nature reserves. The bill received the Royal Assent on Dec. 16. (H. G. M.)

United States. In March, the Fourteenth North American Wildlife conference met in Washington, D.C.; there was a record attendance of 1,147 from 47 states, Alaska, the District of Columbia, Canada, Mexico, and Argentina. The transactions, published by the Wildlife Management institute, sponsor of the conference, comprised some 65 papers, most of which were reports of studies and investigations, and constituted an outstanding symposium on the status of wild life in North America.

In June the Fish and Wildlife service of the U.S. Department of the Interior reported a compilation of state estimates of big-game numbers for 1947 including inventories on national forests, parks, and refuges, showing a total of 7,758,000 in the United States and a reported total of 891,200 taken by hunters.

A special report on *The Moose and Its Ecology* issued in Dec. 1949 by Dr. N. W. Hosley of the service estimated that there were approximately 19,000 of these animals in eight or nine northern states—as compared with an estimated 12,000 in 1944 and 17,900 in 1947. Alaskan estimates showed that there were approximately 30,000 in that area, while it was speculated from United States and Alaskan densities and from Canadian conditions that moose in Canada might number about 146,000

Upland-game birds were discussed in a session of the North American Wildlife conference. The wild turkey was reported to be doing badly west of the Mississippi and only slightly better in a few eastern states. The bobwhite quail was reported to be steadily decreasing in all the states where it is important as a game species. In a majority of the 26 states studied, the number of pheasant was once again increasing.

Intensive investigations of waterfowl were continued by the Fish and Wildlife service. A wintering grounds inventory (Jan. 11-14) indicated a 12% increase in the number of duck over the preceding year, a 32% increase in geese, a 39% increase in brant and a 20% increase in swans. A 56% decrease in coot numbers, however, resulted in a 1% decrease in total waterfowl. Numerical totals were not reported. Drought conditions later in the year adversely affected important sections of the breeding grounds in the short grass prairie regions of Saskatchewan and Alberta and made the 1949 increase not as large as was expected. Nevertheless, it was such as to lead to a 10-day lengthening of waterfowl shooting seasons.

The number of hunting licences sold in the United States reached a new record in the year which ended on June 30, totalling 12,758,698 as compared with 11,391,810 in the year 1947-48.

Sales of federal migratory bird hunting stamps also rose

to a new record of 2,127,598 for the year ended June 30, 1949. Congress increased the price to $2 and also enacted that not more than 25% of any refuge area acquired with funds under a new law might be administered for public hunting in the discretion of the Fish and Wildlife service.

Under the federal aid programme for wildlife restoration projects in the states, an appropriation of $11,276,687 from excise taxes on arms and ammunition was made available during the 1949 fiscal year—the largest ever made—and a record number of projects (612) were approved for the 48 states, Alaska, Hawaii, Puerto Rico and the Virgin Islands.

Significant progress was made by the Fish and Wildlife service's office of river basin studies under the 1946 Public Law 732 in surveying the biological aspects of proposed flood control, irrigation, hydro-electric and other development projects, 231 such projects having being reported during the year. (H. Z.)

Canada. The Dominion Wildlife service reported that 30% of the wild ducks examined by fluroscope carried shotgun pellets. Fearing that use of aircraft would reduce sportsmen to hunting rabbits and squirrels, it recommended that pilots be made honorary enforcement officers, that large game areas be closed to air-transported sportsmen and that provincial game wardens be supplied with aircraft for patrol purposes. Parliament increased the services funds for 1949-50 to $259,520.

The Northwest Territories council decreed that all trap lines should be registered as a conservation measure. The beluga, a milky-coloured sea mammal of Hudson bay, was brought under protection by the federal government, and only Indians, Eskimo and Royal Canadian Mounted Police could kill them without licence. The federally-controlled Arctic reindeer became so numerous that ear-tagging was planned to maintain control. (*See* also NATIONAL PARKS.)

WINDWARD ISLANDS. The British Windward Islands (in the Caribbean sea) comprise the four islands of Dominica, St. Lucia, St. Vincent and Grenada—each ranking as a separate colony for internal administration—together with the Grenadines, which lie between St. Vincent and Grenada and are associated partly with the one and partly with the other. Total area: 829 sq. mi. Total pop. (1946 census): 251,776 (Dominica 47,624, Grenada 72,387, St. Lucia 70,113 and St. Vincent 61,647); the great majority of the population is Negro. Chief towns: St. George's (capital of Grenada and seat of the governor, pop. 5,774), Roseau (capital of Dominica, pop. 9,751), Castries (capital of St. Lucia, pop. 7,056) and Kingstown (capital of St. Vincent, pop. 4,831). Governor, R. D. H. Arundell.

History. It was announced in April 1949 that the secretary of state for the colonies had agreed to certain constitutional changes including the introduction of adult suffrage (subject to a single literacy test only) at the next elections for the Legislative Councils and the removal of the property qualification for a candidate, subject to further examination of the existing arrangements for deposits which candidates were required to make.

The rebuilding of Castries, capital of St. Lucia, which was wiped out by fire in June 1948, was entrusted to the Colonial Development corporation and work began in April. A town plan was published. Public funds were made available to the government of St. Lucia to the amount of £700,000 in addition to bank loans for the financing of private building.

In Dominica it was announced that the secretary of state had approved additional assistance for development of $2,160,000 (of which $1,248,000 were expected to be a free grant and $912,000 a loan) over and above the original Colonial Development and Welfare grant of $1,627,000: and that the Colonial Development corporation had completed plans for the establishment of a group project involving investment of over $960,000.

Finance and Trade. Currency (from 1948): West Indian dollar, £1 = $4·80.

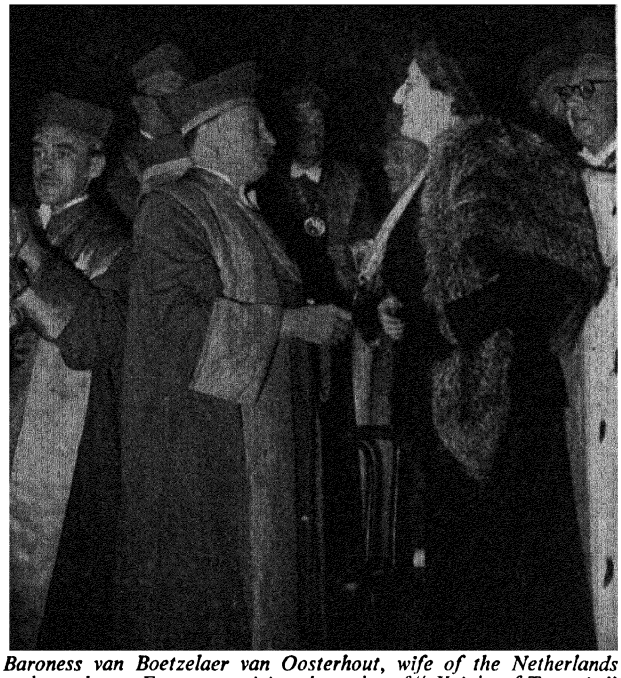
	Dominica	Grenada	St. Lucia	St. Vincent
Revenue .	$1,222,499[a]	$2,255,334[a]	$1,933,891[a]	$1,788,655[a]
Expenditure .	$1,318,319[a]	$3,498,828[a]	$1,951,148[a]	$1,753,127[a]
Imports .	£475,559[b]	£1,293,433[b]	$4,117,853[c]	£692,967[b]
Exports .	£200,423[b]	£995,730[b]	$1,116,832[c]	£234,647[b]

[a] 1949 est. [b] 1947. [c] 1948 provisional.

Principal exports: lime juice, cocoa, sugar, cotton, copra and arrowroot. (J. A. Hu.)

WINES. The first wines to be made in 1949 were, of course, those of the Southern hemisphere, South America easily first as regards both the quantity (Argentine) and quality (Chile), with Australia and the Cape province of the Union of South Africa tying for second place. The vintage in all such vinelands as well as the much smaller ones of Uruguay and Brazil takes place in February and March under climatic conditions that are so much more constant than those in the northern hemisphere that there are no such variations between different vintages as are common in France and Germany.

In Europe, the vintage of 1949 would long be remembered as one of the driest and sunniest on record which was not the same as saying that it was the best that vinegrowers could have desired. The best wines are those in which both the sun and the rain have co-operated best, the sun being responsible for the sugar, hence the alcohol in the wine, and the rain for the various acids from the soil which give different wines their distinctive *bouquet*, flavour and charm. In the making of Sherry, Port, Madeira, Marsala and all wines of a high alcoholic strength, a year such as 1949 was likely to prove a very good one; the same might be said for Sauternes, Palatinate and Tokay wines, in which any excess of sugar content is welcome since the chief appeal of all such wines is their sweetness. On the other hand in table wines, the beverage wines, both red and white, of which Bordeaux and Burgundy



Baroness van Boetzelaer van Oosterhout, wife of the Netherlands ambassador to France, receiving the order of "Knight of Tastevin" in the cellars of the Château du Clos de Vougeot, Burgundy, Nov. 1949.

are the two prototypes, grapes which are too rich in sugar content and deficient in acidity are far from being the more desirable.

There was, fortunately, a break in the drought, in the Bordeaux district, early enough in September to give at the last moment the help which the grapes sorely needed, and both the red and white wines of Bordeaux were expected to be well above the average in quality. In Burgundy and in Champagne there were storms with heavy downpours and exceptionally hot weather, conditions only too favourable for turning ripe grapes into rotten ones, and it was probable that the quality of both the Burgundy and Champagne wines of 1949 would be uneven in quality: there would be some excellent wines made from carefully selected grapes, and there would also be some poor wines made from grapes that were not chosen with due care as to their soundness. In the northernmost vineyards of the Rhine and Moselle, from Alsace to Coblenz, the exceptionally fine summer was responsible for white wines of very fine quality, but the quantity vintaged was well below the average. (A. L. S.)

WORLD PRODUCTION OF WINE—1948 AND 1949
(Millions of Gallons)

Country	1949	1948	Average	
Algeria	381·9	334·0	500	(1930-39)
Argentina	275·0	307·0	215	
Australia	41·4	41·0	20	Prewar
Austria	22·0	25·1	29	(1935-39)
Brazil	26·2	25 6	19	(1943-47)
Bulgaria	67 5	39 6	48	(1935-39)
Canada	3 6	4 8	4	
Chile	83 0	91 9	85	(1935-39)
Cyprus	4·1	5·4	4	
Czechoslovakia	7·9	8·9	11	(1935-39)
Egypt	*	0 8		
France	1,053·7	1,127·9	1,457	(1930-40)
Germany	40 0	59 4	50	
Greece	118 8	98 4	99	(1935-39)
Hungary	119·0	96 0	100	
Israel	1 8	1 0	1·6	(1943-47)
Italy	975·0	939·4	935	(1936-46)
Lebanon	1·0	0 8		
Luxembourg	1·5	3·2		
Malta	1·3	1·3		
Mexico	*	6·8		
Morocco	12·9	11·0		
Peru	4·0	3 6		
Portugal	191·4	216·7	241	(1939-48)
Rumania	160 0	89·0		
South Africa	36·8	37·1	37·1	(1936-46)
Spain	396·0	398·0	500	
Switzerland	12·4	20 9	15	(1936-46)
Syria	3 0	3 0		
Tunisia	21·9	21 2		
Turkey	4·0	3·1		
Uruguay	20 0	17·2		
U.S.A.	100 0	140·6	102·5	(1940-45)
U.S.S R.	273·0	264·0		
Yugoslavia	127·5	108·8	150	
	4,587·6	4,552·5		

* Unknown

WOMEN'S ACTIVITIES. In 1949 the need for a widening contribution by all citizens to the life of the community afforded women in many countries new opportunities. Recognition of woman's rights continued, however, to lag behind acceptance of her work. Twenty-seven countries still refused equal franchise and, by some, women were excluded from certain professions and from the enjoyment of full educational facilities. Economic disabilities often persisted even where electoral freedom had been conceded. When, therefore, the United Nations commission on the status of women met at Beirut in March for its third session many urgent matters of reform were indicated in its agenda. Constituting the first permanent international body to tackle the question of women's rights, the women delegates represented Australia, China, Costa Rica, Denmark, France, Great Britain, Greece, Haiti, India, Mexico, Syria, Turkey, the United States, the U.S.S.R. and Venezuela.

In the diplomatic field the year saw fresh acknowledgements of the qualifications which women are able to bring to the management of international relations. Mrs. Vijayalakshmi Pandit, already the new dominion of India's ambassador to Moscow, was appointed in New Delhi on March 24 to be ambassador to the U.S. On June 21 the appointment of Mrs. Perle Mesta, a prominent Washington hostess, as U.S. minister to Luxembourg was announced, and on Oct. 12 Mrs. Eugenie Andersson, of Red Wing, Minnesota, became the first woman to reach ambassadorial rank in the American diplomatic service when she was nominated U.S. ambassador to Denmark. Miss Jean McKenzie, who arrived in England on Aug. 28 on her way to open a legation in Paris, was the first woman to be given diplomatic status by the government of New Zealand: she was to act as chargé d'affaires with the personal rank of counsellor. The announcement on Nov. 11 that Mrs. Josephine McNeill would be minister at The Hague marked the appointment of Ireland's first woman envoy, while in the same month Miss Grace Rolleston left England to become third secretary at the British legation in Budapest.

A notable part in contemporary affairs continued to be played by the Associated Country Women of the World which with its five million membership linking the rural groups in the various countries was one of the largest international organizations of women. Apart from its general work of promoting friendly and helpful relations between countrywomen's and homemakers' organizations and of stimulating interest in international questions, it was concerned also with the larger world problems, having representatives on the Economic and Social council, on the Food and Agriculture organization and on U.N.E.S.C.O. A women's food petition signed on behalf of nine international women's organizations, whose total membership numbered more than 65 million, was presented to the fifth session of the Food and Agriculture organization on Nov. 21 by Mrs. Raymond Sayre, of Ackworth, Iowa, president of the Associated Country Women of the World. This emphasized the imperative necessity for a new and systematic policy of giving priority to human need in respect of food regardless of all other considerations. Food, health, education and the status of women were among the subjects discussed at the fifth conference of the Pan-Pacific Women's association held in Honolulu from July 20 to Aug. 3 and attended by delegates from China, Japan, the Philippines and Korea, as well as from the mainland of the U.S., Hawaii, Australia and New Zealand.

Great Britain. In the first estimates of civil population compiled by the registrar general since the 1931 census, which were published in Oct. 1949, it was disclosed that women outnumbered men in England and Wales by more than two million, 22,268,000 of the estimated total civilian population of 42,156,000 being females. Their increasing role in public life was amply demonstrated by an analysis of available election figures on a national basis made by the National Women's Citizens' association. This revealed that the number of women councillors in England and Wales in the first quarter of the year was 3,297, nearly double the figure for 1939. With 20 women—thrice as many as it had in 1939—Birmingham led municipal corporations, and among county councils Middlesex topped the list with 22. At the ninth conference of women members of local government authorities held at Caxton hall, London, on Oct. 28 the care of children apart from their parents was among the subjects discussed. The Mothers' Rest association and the Family Service union were responsible for carrying out an

exhaustive survey in industrial areas during the year which showed that wives of professional and business men were the hardest worked but that breakdowns of health were more prevalent among working-class mothers.

An important organization for encouraging the education of women for citizenship, the National Union of Townswomen's Guilds, received grants in aid from the Ministry of Education, the Scottish Education Department and the Carnegie trust, for experimental work and the expansion of educational activities among women. The number of guilds increased during the year from 1,015 to 1,170, representing a total membership of approximately 120,000. Outstanding in the 1949 programme of the National Federation of Women's Institutes, which reached a membership of 438,000 during the year, was a campaign to improve countryside conditions in England and Wales in regard to water supply and sewerage. A village questionary circulated among the 7,282 institutes of the federation was designed to provide information on a national scale as to other conditions calling for reform. Though this had been completed by the end of the year, the results had not yet been summarized. At the 29th annual meeting held in London on June 14-15, the minister of education underlined the right of every housewife to a full life of her own so that she might be of greater value to the family and the community.

Recruiting for the needs of civil defence was a renewed branch of Women's Voluntary services work in 1949 and this organization consolidated or developed the many other activities which since its foundation in 1938 had made it an integral factor in public welfare. Care of the aged was an increasing concern of the W.V.S. which since the war had opened for them 17 residential clubs accommodating 420 people. Irrespective of its widespread activities and cooperation with government departments and local authorities at home, the W.V.S. were also helping in various ways in Germany, Italy and among the families of the groundnuts workers in Tanganyika. At the end of the year W.V.S. centres in England, Scotland and Wales numbered 1,200.

Individual distinctions achieved by women during the year included the appointment, announced on March 30, of Miss J. M. Woollcombe, director of the Women's Royal Naval service, to be an honorary aide-de-camp to the King, this being the first occasion on which such honour was accorded to a woman. At the same time Miss O. H. Franklin was appointed King's honorary nursing sister. On Oct. 10 Miss J. Burbidge became the first woman to act as a spokesman at the Foreign Office.

Commonwealth. For the first time in Australia's history a woman was admitted to cabinet rank when Dame Enid Lyons was included in the coalition government formed on Dec. 18, 1949. Dame Enid, the 52-year-old widow of the former Australian premier Joseph Lyons, and mother of 11 children, was also her country's first woman M.P. As vice-president of the executive council in the new cabinet she would represent the governor general. In Canada Mrs. Nancy Hodges became the first woman speaker in the Commonwealth when on Dec. 12, 1949, she was appointed speaker of the British Columbia legislative assembly. Born in London in 1888, she was elected to the assembly as Liberal member for Victoria in 1941 and was re-elected in 1945. In the New Zealand parliamentary election on Nov. 29 Mrs. Ratana, widow of the representative for Western Maori, became the first Maori woman member of parliament by winning her late husband's seat. While on a short visit to London in April and May the Begum Liaquat Ali Khan, wife of the Pakistan prime minister, pointed out at a press conference that there was an increasing tendency for *purdah* to be discarded by her fellow countrywomen. She paid tribute to the All-Pakistan Women's association, which existed for general welfare and cultural development, and the Pakistan Women's National guard, which assisted the medical services during times of emergency service and encouraged civic responsibility among the women of the country. (D. A. C.)

WOOL. During 1949, persistent demand for wool kept prices at high levels, the average price level for the year being higher than in 1948. An easier tendency which developed in the summer months was rapidly reversed after the devaluation of sterling in September, and in the later months of the year considerable price advances were registered in all qualities, but more particularly in crossbred wools which reached levels not previously touched since 1920.

Valuable statistical data on the world supply and consumption position were furnished by the International Wool Study group, which met in London in November. The group computed the world production for the 1948-49 season to have been 3,758 million lb., which was within 1% of the average annual production for the period 1934-39. The major wool producing countries, Australia, New Zealand and South Africa, all registered slight increases compared with the 1947-48 season, whereas both Argentina and the United States experienced appreciably lower production.

The apparel wool portion of the total world production was 2,957 million lb., whereas world consumption of apparel wool amounted to some 3,547 million lb. The deficiency was made good out of accumulated wartime stocks, mainly held by United Kingdom-Dominion Wool Disposals, Ltd., and the United States Commodity Credit corporation. By June 30, 1949, the stocks held by the government-owned organizations amounted to no more than 640 million lb. and, being composed largely of the less attractive types of wool, these stocks had lost most of their former market significance. Thus the considerable stocks which in 1945 seemed likely to require many years for their liquidation, had been largely disposed of in an orderly manner within four years of the end of World War II.

Activity in the wool consuming countries was generally well maintained with the notable exception of the U.S.A. and, to a lesser extent, Belgium.

In the United Kingdom, new postwar high levels were reached in both the size of the labour force and volume of production, particularly in the later months of the year. Two noteworthy developments were the termination in October of the ten-year-old Wool control, and the submission by the National Farmers' union of a Producers' Marketing Scheme for British Wool under the Agricultural Marketing acts.

In the United Kingdom also, a technical development of outstanding importance, known as the Ambler Superdraft system of worsted spinning, was announced. This was believed to be the most important technical advance in wool processing for many decades, as it saved approximately two-thirds of the labour and machinery normally used in the preparatory processes of worsted spinning.

The wool textile industries of France and Italy maintained the high levels of production of 1948 in spite of increased difficulties in export markets. With a large potential home demand caused by the war and its aftermath, a more stable currency system, and the benefit of the European Recovery programme, the wool textile industry of Western Germany made considerable advances. The Japanese industry registered some progress during 1949 but the volume of production was still small compared with that of prewar years. (F. HL.)

United States. The Commodity Credit corporation, a U.S. government agency, reported on Sept. 30, 1949, that its stock pile of wools totalled 88 million lb., compared with 120 million lb. on Sept. 30, 1948. At the end of the third

quarter of 1949, 48% of the wools owned by the Commodity Credit corporation were the 1949 clip, 25% were 1948 wools, 11% were 1947 wools and 16% were 1946 and older wools.

Imports of apparel wools were considerably reduced during 1949. In the first eight months only 76 million clean pounds were entered for consumption, compared with 284 million lb. in the first eight months of 1948, and 250 million lb. in the same period of 1947. This drastic decline in U.S. wool imports caused a sharp contraction in wool stocks and it was estimated that on Dec. 1 apparel wools in the United States represented about 168 million clean pounds, compared with 274 million lb. on Dec. 1, 1948, and a peak of 488 million lb. on Dec. 1, 1946. Conversely, wool stocks in Argentina tended to accumulate, because of the relatively small amounts which were exported.

Consumption of apparel type wools fell sharply in the U.S. but elsewhere there appeared to have been more activity in wool textiles.

For the greater part of the year, prices in the U.S. were above the government support level, which factor accounted for less government buying than in the preceding year. Prices of domestic wools in the U.S., after some firmness during the first quarter, entered a slow decline from an average of around $1·52 a clean pound in the Boston wool market to $1·38 in October. A better demand in the final quarter lifted prices slightly.

Using Australian wools as an example for foreign wool prices in the U.S., fine Australian wools, duty paid in Boston, American yield, began the year at $2·18. Less demand, rather than replacement values, caused Australian wools to decline in price in the Boston market, with a substantial drop to $1·45 in late September, following currency de-valuations. Thereafter, signs of steadiness in Boston coincided with rising prices at the wool sales in Australia. The year closed with fine Australian wools quoted in Boston around $1·60. (*See* also TEXTILE INDUSTRY.) (S. L. LE.)

WORDS AND MEANINGS, NEW. The words and meanings given below are a selection of those first noted in the year 1949. Those that have also been found earlier have the earlier date added in brackets after the definition; but several of the words are such as may well occur at earlier dates than have been found for them.

GREAT BRITAIN

antrycide. A drug in the form of a white crystalline powder which protects cattle from the effects of the bite of the tsetse fly when injected hypodermically as an aqueous solution (1948).

arrestor rod. A rod of moderating material in an atomic pile.

Aspatron. A small atomic pile designed at the A.S.P. Chemical Company's laboratories for the production of radio-active isotopes for medical and research purposes.

Bepo. The British Experimental Atomic Pile at the Ministry of Supply's research station at Harwell, Berkshire, which is used for the production of radio-active isotopes for medical and research purposes (1948).

blend up. To improve the quality of by blending.

bonusable. Ranking or qualifying for a bonus.

breed. To produce additional fissionable material by interaction, e.g., of uranium 235 and uranium 238 (1948).

career industry. An industry that provides workers with life-long employment and prospects of promotion.

century storage. Storage of commodities, especially water, on a scale sufficient to tide over several years of less than normal supplies.

continuation (short for continuation-school). Education for persons between 15 and 18 years who have left school.

corrugated. Of roads, full of ruts; **corrugation,** *n.*

denationalize. To restore a nationalized industry to private ownership; **denationalization,** *n.*

disincentive. A deterrent, especially to patriotic behaviour.

dis-saver. One who diminishes instead of increasing his savings; **dis-saving,** *n.*

dose. The amount of radio-active contamination received by a person, implement, or other object employed on or used in atomic energy research or utilization.

down-turn. A reduction or falling-off in amount, etc.

early bird. An early morning traveller on a British air route who receives a 10% reduction in his fare. *Colloq.*

ferricillin. A ferric salt of penicillin which remains active in the body much longer than pure penicillin.

first-footer. One of the earliest visitors to an exhibition or the like.

four-track. To enlarge a railway to four tracks.

Fritalux. A proposed name for an economic and customs union including France, Italy, and Benelux. Alternatives **Fibenel** and **Finebel** have been proposed.

functionalist. One who uses or advocates the use of functional methods or agencies.

go-slow. Characterized by working at a speed much slower than the normal, as a means of bringing pressure to bear on the employers of labour.

hitch. To hitch-hike.

hive off. Of firms, to assign the production of goods scheduled for, or exempted from, nationalization to subsidiary companies in order to avoid complete nationalization.

impermeabilize. To make impermeable, *e.g.* to water.

interventor. A person appointed to intervene in and, if possible, settle a dispute.

liberalization. A freeing from controls.

lifetime. A period of activity or efficiency of anything; tenure of office.

muted. Of lighting, subdued.

network. Any system of related but not necessarily interconnected units; *e.g.*, a network of naval bases.

pace-maker. A preliminary or experimental instance.

pattern. The basic structure or composition of any complex entity, especially when it is undergoing, or is expected to undergo, change.

polio. A person affected with or incapacitated by poliomyelitis or infantile paralysis.

rebound. To re-mark the boundaries of.

red petrol. Rationed commercial petrol containing diphenylamine or some similar red dye for purposes of identification (1948).

redundantize. To declare, or dispose of as, redundant.

reticulate. To distribute over an area by means of a network of channels or conductors.

revolvement. A changing round, especially the systematic renewal of ageing stocks.

rheumatology. The scientific study and treatment of rheumatism.

sub-ration. To ration a commodity at the distribution or wholesale level but not at the retail.

Titoism. The brand of Communism developed in Yugoslavia by Marshal Tito (Josip Broz), independently of the Soviet Union and the Cominform; **Titoist,** *a.* and *n.*

type. To assign to a particular type, identify; **typable,** *a.*

untypable. That cannot be assigned to a definite type.

Welfare State. A state in which the government aims at providing security and happiness for all.

yellow-band. Of streets, having the lamp-posts marked with yellow bands as an indication that waiting is not permitted. (J. M. WE.)

UNITED STATES

afterburner, *n.* A ram-jet booster engine (1948).

A.P.F. Abbreviation of "Animal Protein Factor," a vitamin

complex in which vitamin B_{12} is a dominant factor.

banthine, *n.* A synthetic drug to relieve peptic ulcer.

beefcake (Imitation of *cheesecake*), *n. Humorous.* The exposure of men's chests.

Benthoscope (Gr. *benthos* "sea-depth" + *skopein* "to look at"), *n.* A strong, steel sphere, large enough for a man, for deep-sea diving and observation (1945).

B.N.B., B.N.P. Insecticides, both of which were reported to be safer to use and more powerful than D.D.T.

bracero (Sp.), *n.* A Mexican contract labourer (1945).

canasta (Sp.), *n.* An Argentine card game with some features of rummy.

chucks, *n. Teen-age slang.* Something humorous.

cold rubber. A synthetic rubber made at a low temperature (41°F) and characterized by strength and toughness (1948).

depth interview. A lengthy, "qualitative" interview in which the interviewer considers the subject from all points of view and endeavours to explore the subconscious of the person interviewed (1948).

Dixiegop (Dixiecrat + G.O.P. "Grand Old Party"), *n.* Coalition of Dixiecrats and certain Republicans in opposition to some of President Truman's measures, especially civil rights.

dollar gap. The shortage in dollar-exchange existing when a country's essential imports from a dollar area, such as the United States, exceed its exports to that area.

Earth Satellite Vehicle Program. Project of the United States for the study of guided missiles (1948).

economy house. A very small house.

Fair Deal. The policy of social improvement of President Truman outlined in his message to congress, Jan. 1949.

five percenter. A contract broker charging 5% for his services; specifically, a person promising to obtain a government contract for a business man for a fee of 5%.

freeze-drying, *n.* Quick-freezing followed by heat-drying in a vacuum cabinet.

guppy, *n. Popular.* A snorkel submarine (1948).

Howdy Doody. A popular doll puppet, first used on a television show (1948).

hunter-killer, *adj., Mil.* Pertaining to that which stalks and attacks with destructive intent (1945).

hydrogen bomb. The theoretically possible atomic superbomb estimated to be a thousand times more powerful than bombs using plutonium, with heavy hydrogen as the most important ingredient (1948).

hypersonic, *adj.* Faster than 2,700 m.p.h. (1946).

Inductive Telephone. A radio telephone for trains (1946).

Jetliner, *n.* A jet-propelled airliner.

killer ship. A hunter-killer (*see* above) ship, a surface craft to spot and sink enemy submarines.

me-tooism, *n.* Term used to describe the acquiescence of some Republicans in policies of the Democratic party.

no-day (work) week. Cessation of work; euphemism for a strike.

nuclear reactor. *See* reactor below.

paranurse, *n.* A nurse trained to parachute to the spot where first aid is needed (1948).

peddler of influence. *See* five percenter above.

pitch-out, *n. Football.* A short lateral pass behind the line of scrimmage, usually from the quarterback to another back (1947).

Point Four. The fourth point in President Truman's Fair Deal programme, namely, aid, technical and otherwise, to economically underdeveloped countries.

RATO. Rocket assist for take-off (1945).

reactor, *n.* An atomic pile, in which the production of atomic energy can be controlled (1947). Often called a nuclear reactor (1946). The breeder reactor produces more atomic energy than is required to operate it (1948). (I. W. RL.)

WORLD COUNCIL OF CHURCHES.

The World Council of Churches is comprised of some 150 Christian bodies throughout the world, being "a fellowship of churches which accept Our Lord Jesus Christ as God and Saviour." The council was formally inaugurated at the first assembly held at Amsterdam, the Netherlands, from Aug. 22 to Sept. 4, 1948. The Roman Catholic Church does not participate in the council nor, for primarily political hindrances, do most of the churches in the U.S.S.R. and eastern Europe.

From July 9 to 15, 1949, the central committee met at Chichester, Sussex. This body is the governing committee of the World Council of Churches between the meetings of the assembly, which is the sovereign organ composed of officially elected representatives of all the participating churches and normally meets every five years. The central committee consists of 90 members chosen by the assembly, and meets annually. Its officers for the period 1948-53 were: chairman, Dr. George K. A. Bell, bishop of Chichester; vice chairman, Dr. Franklin C. Fry of the Lutheran Church in the U.S.; secretary general, Dr. W. A. Visser 't Hooft (Netherlands).

The 1949 meeting of the central committee had a large agenda, mostly to report the progress of activities inaugurated by the assembly. Its main actions were: (1) after a long discussion on contemporary issues of religious liberty, to publish an officially agreed statement on the subject; (2) to discuss Christian action in international affairs, resulting in resolutions: (a) recommending the Churches' Commission on International Affairs to develop a study on racial questions with special reference to South Africa, (b) supporting the proposal for a period of silent prayer at the United Nations assembly meetings, (c) welcoming the U.N. declaration of human rights, (d) drawing attention to the plight of 12 million expelled people and refugees in Germany and to the serious effects upon them of the policy of dismantling; (3) to rename its reconstruction department as the department for inter-church aid and service to refugees in order to indicate that a permanent mutual help must supersede the emergency postwar reconstruction; (4) to authorize the study department to begin planning the subject matter for discussion by the 1953 assembly.

Reports on the youth department, the *Oecumenical Review*, the secretariat for evangelism, the Oecumenical institute and the enquiry on the work of women in the church were also received and their various programmes endorsed. (O. S. T.)

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X-RAY AND RADIOLOGY.

Important advances were made during 1949 in angiography of the cardiovascular system of the chest and of the brain.

Angiocardiography, the visualization of the thoracic blood vessels and the heart through the use of X-ray photographs, had been established as a practical method of diagnosis in 1938 by G. P. Robb and Israel Steinberg. During 1949 Steinberg, along with C. T. Dotter, published the results of 11 years' experience with the method. It had added materially to accuracy in diagnosis of intrathoracic disease. Along with cardiac catheterization it proved invaluable for accurate diagnosis in congenital heart disease, especially since many congenital anomalies could be corrected by surgical operations.

Cerebral angiography, used in diagnosis of intracranial lesions, was originated in 1927 by Egas Moniz (*q.v.*), of Lisbon. Advances which took place in angiography during 1949 consisted in the provision and improvement of methods and apparatus. Two devices were perfected which greatly

facilitated the roentgenographic technique, one called the seriograph and the other the roll film cassette.

The seriograph consists of a cassette magazine mounted in a portable cabinet adjustable in height to adapt it to various table heights. The cassette changer holds six specially designed cassettes, each with intensifying screens and each backed by a thin layer of lead to provide protection of underlying films during exposure. An exposure-activating device and an automatic cassette-shifting device operate in such a way that following each exposure the cassette is removed and an unexposed one shifted into position for the next exposure, the series continuing until completion of the six exposures. The device provides that the successive exposures are made at predetermined intervals—0·7 sec. for cerebral angiographs and 2·5 sec. for angiocardiographs. The exposure time for each film is set at 0 1 sec. or less, the total elapsed time for the six films being 4·5 sec. This apparatus serves to make films during the successive opacification of the arteries, capillaries and veins of the brain.

The roll film cassette consists of two main components—a motor base plate and a detachable roll film magazine. The capacity of the magazine is 75 ft. of film, 9½ in. wide, and sufficient for approximately 75 exposures. Operation is accomplished automatically and continuously in conjunction with the X-ray tube control at the rate of two exposures per second. The film is automatically advanced in the magazine when the motor circuit is closed; and when the film is in proper position for exposure it is automatically compressed between two intensifying screens. A Bucky grid is in constant motion during the exposures.

Two important papers were published in 1949 which pointed to new possibilities in the application of radiation to the treatment of cancer. They dealt with the use of the betatron in the production and utilization both of free electrons and of roentgen rays at high voltages. The betatron is a machine by which electrons produced from a tungsten filament are injected into a vacuum chamber between the poles of an alternating current electromagnet and by the energy of the increasing electromagnetic field finally reach an energy of 20 million electron volts. If it is desired to produce roentgen rays, the electrons are directed against a tungsten target. By removing the target it is possible to obtain a beam of electrons which can be controlled and directed outside of the machine and which at the high voltage of 20 million ev. can penetrate tissues to a depth far beyond that which is possible with the electrons produced by the voltages hitherto used for productions of roentgen rays. They have an important advantage over roentgen rays in that their highest concentration of energy is not at their source but at the end of the beam. A beam of free electrons can therefore be applied in such a manner that its greatest energy is exerted in the tumour itself instead of in the skin and superficial tissues. While much experimental work was still necessary before this new agent could be practically and safely applied in the treatment of cancer, it offered hopeful possibilities for progress in this field.

It was not only in the production of free electrons that the betatron offered possibilities of advance but in the production of roentgen rays with the tremendous penetrating qualities afforded by the 20 million ev. energy H. Quastler and his co-workers described the treatment of a single case of cancer of the brain by roentgen rays produced by the betatron at 20 million ev. As was the case in the use of free electrons this treatment was still in the experimental stage. (*See* also CANCER.) (A. C. CH.)

YACHTING. The most important event of 1949 and one which would have profound influence on the future of yachting was the International Yacht Racing union (I.Y.R.U.) conference held in London in October. The 5·5 m. class was adopted as the largest international pure racing type, the rules of which would produce a boat smaller, of lighter displacement and cheaper than the existing international 6 m. class.

In place of the larger international classes, more utilitarian types were adopted for inshore racing and new Cruiser-Racer classes of 8, 9, 10 and 12 m. rating would be governed by a formula which would produce cruisers with good cabin accommodation. The new types would rate well under both Royal Ocean Racing club (R.O.R.C.) and Cruising Club of America (C.C A.) handicap rules and would thus also be suitable for offshore racing.

A new one-design Sharpie for racing upon European lakes, 18 ft. 3 in. in length, a great improvement upon any then in use, was also adopted. Changes in the I.Y.R.U. racing rules were sanctioned which brought them very near the North American Yacht Racing union (N.A.Y.R.U.) rules, except as regards the regulations governing "right of way."

Overshadowing all international racing events, the British-American cup series of team races, held in the Solent and sailed in international 6 m. class yachts with teams of four a side, ended in a victory for the United States.

Passage racing greatly increased in popularity, and offshore racing went from strength to strength. The most important event was the 600 mi. Fastnet race in which competitors started at Cowes and rounded the Fastnet rock to finish at Plymouth. A gale played havoc with the fleet of 29 starters, which included Dutch, French and Argentinian entrants, and only ten yachts completed the course. The race was won for the second time by Captain J. H. Illingworth's "Myth of Malham." A new race for small yachts (class III) run concurrently with, and on a similar course to, the Fastnet but rounding the Wolf rock, was won by Major R. Scholfield's "Blue Disa," one of a very successful new class of 24 ft. L.W.L. one-design offshore racers.

The international Dragon cup was won by the Danish boat "Snap." The European championship of the star class held at Monaco was won by A. Straulino, Italy.

Dinghy racing reached new heights of popularity in England, the premier award in the 14 ft. international class being won by Stewart Morris for the third time running and the seventh time in all. (E. F. HK.)

United States. The winning of several major ocean and long coastwise races in different parts of the world by yachts of relatively light displacement type was a feature of the 1949 yachting season. On the Pacific, "Kitten," a 46 ft. overall PCC class sloop owned by Fred W. Lyon, California, won the 2,225 mi. Los Angeles-to-Honolulu race. A sister ship to "Kitten," Dr. Philip R. Smith's "Gossip," Seattle, won the Tri-Island series of three long distance races in the Puget sound area.

In addition to the ocean races mentioned, long distance sailing events were numerous. In Florida waters Palmer Langdon's Rhodes-27 class sloop "Tiny Teal" won the St. Petersburg-Havana and Lipton Trophy races and took the Florida Governor's cup as the outstanding yacht in the five races of the "southern circuit."

Among international class champions were Harry G. Nye, Chicago, Star class; Richard Bertram, Miami, Lightning class; Ted Wells, Wichta, Kansas, Snipe class; and Howard Lippincott, Riverston, Delaware, Comet class. Charles Currey, British dinghy skipper, won the Princess Elizabeth trophy for 14-footers in a Bermuda-Canada-England-U.S. series held at Bermuda. (W. H. TR.)

YEMEN. An independent state in the southwestern tip of the Arabian peninsula, between Saudi Arabia to the



The start of the first race for the British-American cup off Cowes, Isle of Wight, July 1949. Nearest the camera is "Goose" (United States).

north, the British Aden protectorate to the southeast, and the Red Sea to the west. Area: *c.* 31,000 sq. mi.; pop. (1948 est.): 1,600,000. Language: Arabic. Religion: Moslem. Capital: San'a (pop. est. 25,000). Ruler: Imam Ahmed Ibn Yahya Nasir li-Din Allah.

History. The isolation of Yemen during 1949 was greater than it had ever been. After the overthrow of Abdullah Ibn Ahmed al-Wazir's regime in 1948 and the numerous executions of leading men which followed, the new Imam did not return to San'a but set up his capital at Taiz. Conditions continued unsettled. A revolt of Rasasi tribesmen broke out in February and was crushed by the Imam, who was reported to have executed 33 tribal leaders. R.A.F. aircraft from Aden were reported to be making bombing raids on border forts early in March owing to violations of British territory by the tribesmen. On Sept. 2, after giving due warning, R.A.F. bombers destroyed a fort which was being erected by Yemenis in the territory of the western Aden protectorate.

Yemen took very little part in the proceedings of the Arab League (*q.v.*). Trade negotiations were carried on with Egypt and with India by Qadi Muhammad Ibn Abdullah al-Imari, a special envoy of the Imam. A trade agreement with Lebanon was signed in February. Relations with Great Britain were discussed with the Imam at Taiz in Nov. 1948 by the governor of Aden, Sir Reginald Champion, who in Feb. 1949 personally conveyed to London Yemen's requests for British technical and medical assistance. In March it was announced that Sir Reginald would be British representative in Yemen as well as governor of Aden. The Imam underwent an operation in March, an Italian surgeon having been brought by air from Asmara. In November it was reported that most of Yemen's remaining Jews had been evacuated through Aden to Israel.

Foreign Trade Principal imports are manufactured goods. Principal exports are coffee, barley, wheat millet, hides, charcoal, raisins.

Finance. The monetary unit is the Maria Theresa dollar, called the *riyal*, nominally = Rs.1 (Indian). (C. Ho.)

YORK, ARCHBISHOP OF (GARBETT, CYRIL FOSTER), 90th archbishop of York, primate of England (b. Feb. 6, 1875), was educated at Portsmouth grammar school, Keble college, Oxford, and Cuddesdon theological college. For 20 years he worked at Portsea as curate (1899) and vicar (1909). He was rural dean of Portsmouth, honorary canon of Winchester (1915-19) and proctor in convocation (1918-19). In 1919 he was consecrated bishop of Southwark, translated to Winchester (1932) and became archbishop of York in 1942. Dr. Garbett became well known to the general public for his pronouncements on the Church and social problems and he published a number of books on this subject. In 1939 he was appointed chairman of the Canon Law commission which later issued its report together with proposals for a revised body of canons under the title *The Canon Law of the Church of England* (1947). At the end of 1948 he visited 27 rural deaneries in the diocese of York in preparation for an evangelistic campaign. In 1949 he put out some proposals for the future reform of the Prayer Book. He visited South Africa (1934), India, Kashmir and Ceylon (1938). He visited Tehran, Moscow and Cairo (1943); Canada and the United States (1944 and 1949); Belgium, Holland, Italy, Greece and Malta (1945); Palestine, Egypt, Ethiopia, the Sudan and North Africa (1946); Germany



The Archbishop of York (right) with Leopold Figl, the Austrian chancellor, in Vienna, April 1949.

and Austria (1947 and 1949); Czechoslovakia and Yugoslavia (1947). These journeys, mostly by air, were undertaken to foster relations between the Church of England and foreign churches, or to encourage communities of the Church of England abroad. (A. J. MAC.)

YOSHIDA, SHIGERU, Japanese diplomat and statesman (b. Tokyo, Sept. 22, 1878), received his law degree in 1906 and entered the diplomatic service. He served in 1907 in Mukden, Manchuria, in Rome, Washington, London (first secretary, 1920-22) and Tientsin. By 1925 he was again at Mukden, where he was credited with abetting the Japanese policies of penetration. In 1928 he became minister to Sweden, Norway and Denmark, but in the same year was appointed deputy minister of foreign affairs. From 1930 to 1932 he was ambassador in Rome. Japanese militarists, whose 1936 coup ended conservative opposition to warlike policies, prevented his appointment as minister of foreign affairs in that year. He served as ambassador to Great Britain (1936-38) and, during World War II, he went into virtual retirement. In June 1945 the Japanese government arrested him on charges of advocating peace overtures with Great Britain, but he was released in August and on Oct. 6 was appointed minister of foreign affairs in the Shidehara cabinet. On May 15, 1946, he accepted the presidency of the party calling itself Democratic Liberal but in practice Conservative and the following day received an imperial command to form a new government. He resigned after the election of May 25, 1947, but was again prime minister on Oct. 14, 1948. On Jan. 23, 1949, his Democratic Liberal party won, for the first time in three postwar elections, an absolute majority in the Diet, and Yoshida gained the position where he could govern without support of other parties. He became both prime minister and minister of foreign affairs in the new cabinet he formed on Feb. 16.

YOUNG MEN'S CHRISTIAN ASSOCIATION. The World's Alliance of Young Men's Christian Associations continued its work with displaced persons in Germany and Austria and with refugees in Palestine and Syria. The southeast Asia area conference was held in Bangkok in August and the European area conference in Florence in September. The Y.M.C.A./Y.W.C.A. week of prayer and world fellowship was again celebrated in November. World membership rose to more than 2,750,000 in 70 countries. John Forrester-Paton of Scotland continued as president and Dr. Tracy Strong of the U.S. as general secretary.

Great Britain. During 1949 the British Y.M.C.A.s, with a membership of over 96,000, maintained and extended their religious, cultural, social and physical activities in some 460 local centres throughout the British Isles. Similar programmes served the needs of the British armed forces in over 300 centres and hostels at home and in 14 countries overseas. Twenty-six German Y.M.C.A. leaders spent a month studying British Y.M.C.A. methods; in Germany further Christian Youth Leadership courses for the services and Control commission personnel were held. Community services still served some thousands of British and European workers in industry, agriculture and forestry, as well as engineering apprentices and horticultural students. Over 900 town boys were trained for agricultural work and 84 Volunteer Agricultural camps were run by the Y.M.C.A. The special educational projects at Cheshunt college, Cambridge, at the Y.M.C.A. college for adults at Kingsgate, Kent, and at the Y.M.C.A. Youth college, Rhoose, Glamorgan, provided many courses, especially for boys and young men in industry. More than 1,000 young volunteer leaders carried on their part-time training in local associations. Sir Frank Willis continued as secretary of the National council, and K. Dickson as secretary of the Scottish National council. (R. W. J. K.)

United States. By Aug. 31, 1949, $5,599,165 of the $8,650,000 World Youth Fund for Reconstruction and Advance, related to needs in war-occupied and devastated lands, had been raised. The national Youth and Government programme was carried on in 1949 in 22 states; model state legislatures were held; the first national conference of boy governors was held in June in Washington, D.C.

YOUNG WOMEN'S CHRISTIAN ASSOCIATION. In Great Britain 1949 was a year of consolidation. Centres operated for service women turned over to civilian work and nine new hostels were opened. In addition to hostels operated for industrial, business and professional girls, hostels were managed for government departments and private firms. The international hostel in London housed 22 nationalities and plans had to be made for operating hostels for European volunteer workers throughout the country. Clubs continued to grow, particularly mixed youth clubs. Outstanding among the drama work was *The Turning Wheel*, a pageant written and produced by members in Birmingham, which demonstrated the continual work of the association and the performance of *Truth Unchanged*, which illustrated parables and their application to present day problems.

Centres for servicewomen, Control Commission staff and the families of service men abroad still continued in Germany, Austria and the middle east, as also the work for displaced persons. Under the Mutual Service committee of the World's Y.W.C.A. the association's activities in West Africa, India, Iraq and China were given financial support and staff were trained for work in these areas. Representatives were sent to a training institute organized by the World's Y.W.C.A. for two months during the summer and attended by 26 nationalities. The course attempted to define the place of the Y.W.C.A. as a Christian world-wide movement. (R. WR.)

United States. The Y.W.C.A. of the United States of America was founded in 1858 to build a fellowship of women and girls dedicated to the pursuit of Christian ideals; in 1949 this organization included 1,045 Y.W.C.A.s conducting programmes for women in the following fields: business, professional, industrial, agricultural, teen-agers, college and university students and home women. Emphasis in the Y.W.C.A. programmes was on the promotion of physical, health and mental, and spiritual growth. In early 1949 the Y.W.C.A. constituency included 3 million women and girls; the 1949 convention voted to change the Y.W.C.A. of the U.S.A. to a membership organization.

YOUTH ORGANIZATIONS. The need for research into the problems and needs of youth had for some time been recognized by the King George's Jubilee trust, and on April 1, 1949, it appointed a Standing Research and Advisory committee. The committee consisted of 16 members and two assessors—one from the Ministry of Labour and one from the Ministry of Education—and had as its principle term of reference: " To promote and direct research bearing on the welfare of the younger generation undertaken either on the initiative of the committee or at the request of any other organization or authority and to co-ordinate such research. The research will be focused primarily on the adolescent period but will also be extended so far as is considered relevant into the years before and after adolescence."

The committee met for the first time on April 28 and during the year agreed that the most important problems in the field of youth service were the recruiting and training of youth leaders, the " wastage " in membership and the " unattached " youth. The committee requested the University of Bristol to extend its research on the subject of youth leadership to include comprehensive research on the provision and training of youth leaders. It was also agreed that the committee should sponsor research into wastage and the unattached.

In the ten years since its last full report the trust had made grants of £422,468, of which £58,968 was authorized in the year ended March 1949.

A survey of the leisure interests of boy members of mixed clubs was undertaken by the National Association of Girls' Clubs and Mixed Clubs and published under the title *Hours Away From Work*. The membership of the association was 166,385 boys and girls in 2,405 clubs. This membership comprised 35,271 girls in girls' clubs, 64,038 girls in mixed clubs and 67,076 boys in mixed clubs. The association received a gift of £95,000 from the South African Aid to Britain fund (see *Britannica Book of the Year 1949*) and this enabled it to purchase and equip Kilmory castle, Argyllshire, to equip Avon Tyrell, Hampshire, and to purchase Kilvrough manor, south Wales. Avon Tyrell was opened by Princess Elizabeth as a national holiday house and conference centre on July 1. Mrs. Walter Elliot retired after being chairman of the association for 10 years and was succeeded by Miss Vera Grenfell.

The National Association of Boys' Clubs, of which the Duke of Gloucester was president, had a membership of 200,000. Amongst its activities during 1949 was a joint money-raising effort with the girls' clubs and mixed clubs and a fourth tour of its travelling theatre. For reasons of economy the Arts Training centre at Cranbrook, Kent, was under sentence of closure before the end of 1949 but it was reprieved for at least one year.

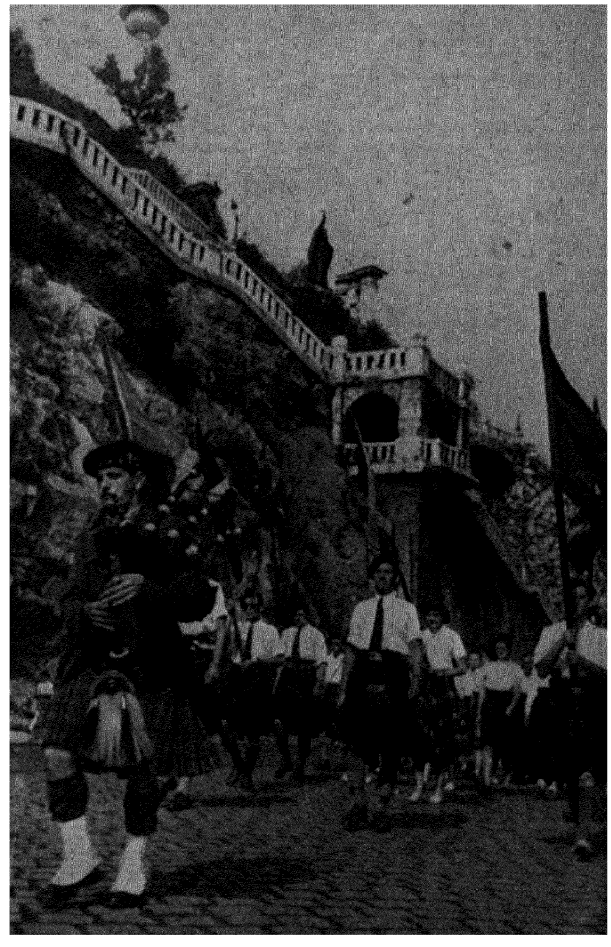
The Outward Bound trust, an organization caring for the spiritual and moral well-being of young people, acquired Gate house, Eskdale, for use as a " mountain school." For three years the trust's sea school at Aberdovey had provided character training courses, and the new school at Eskdale would help relieve the strain on the sea school. A national appeal was launched to raise £100,000 for the work of the trust.

The national training centre for officers and leaders of the Boys' Brigade in England and Wales at Feldon lodge, Hertfordshire, was opened by the Duke of Gloucester in October. The centre was made possible by a grant from the South Africa fund. A training centre for the Girls' Guildry at Fernhill, Rutherglen, was opened in April. The Junior Red Cross celebrated its 25th anniversary in November with an impressive pageant at the Albert hall, London.

The British Schools Exploring society undertook an expedition to northern Norway. The party, which included 10 leaders and 67 schoolboys, explored an area of some 80 sq. mi. at the south end of Lake Risvann under the instruction of two officers of the Royal Engineers. The King George's Jubilee trust contributed £1,000 towards the expenses of the expedition.

A world forum for youth was organized in May in conjunction with the Council for Education in World Citizenship. Representatives from 13 countries took part. A similar forum was held in New York in March. In January, 34 students from 17 European countries arrived in the United States and undertook a nationwide tour before returning to New York for the Forum for High Schools.

In Northern Ireland the youth committee continued to stimulate public interest in youth work and on its recommendations the Ministry of Education made grants of £47,000 in the financial year 1948-49. The Central Council for



Members of the Scottish delegation to the World Festival of Youth and Students which was held in Budapest, Aug. 1949.

Physical Recreation extended its activities to Northern Ireland and this was welcomed by the youth committee.

An experiment in international fellowship was made near Aberystwyth, at Easter, when a communal holiday was held for young persons from Scotland, Ireland, the Isle of Man, Cornwall and Brittany interested in the revival of the Celtic language.

International. The council of the World Assembly of Youth (W.A.Y.) met for the first time in Brussels in August. Founded at the International Youth conference held in London in Aug. 1948, W.A.Y. held a provisional council meeting at Ashridge, Hertfordshire, in Feb. 1949. For the August meeting in Brussels, at which 28 countries were represented, the Service National de la Jeunesse made the arrangements. The Council decided on a number of projects for the first year. Among these were a centre of information and documentation of all youth problems and a survey of national and international institutions concerned with travel for young people. This latter project was already partially covered in Britain by the Central Bureau for Educational Visits and Exchanges which in 1949 published a comprehensive handbook, *Educational Travel Survey of British Organizations.*

Also in August a World Festival of Youth and Students was held in Budapest. This was organized by the World Federation of Democratic Youth, from which federation a number of non-Communist organizations withdrew during 1949, and was followed by the second World Youth congress which opened in the Parliament buildings, Budapest, on Sept. 2. The opening of the festival in the Ujpest stadium was attended by more than 100,000 persons including 800 from Great Britain, 132 from China and 500 from the Soviet Union. Eighty nations were represented.

Other Countries. A youth council was established in Singapore representative of 15 voluntary organizations, and in Hong Kong the youth club movement operated under the ægis of a co-ordinating association. In Bermuda and Mauritius youth organizers' posts were created and the Colonial Social Welfare advisory committee set up a sub-committee to study the question of future youth work. A youth advisory council was established in the Seychelles. After the stabbing of G. D. Stewart, governor of Sarawak, on Dec. 3, the Malay Youth Movement in Sarawak was banned.

In India the National Cadet corps, the purpose of which was to train the youth of India in the rudiments of soldiering, had 57,000 members. The corps was organized in nearly all the provinces and states. A girls' division of the corps was opened.

In the Soviet Union the Lenin Young Communist league held its 11th congress—its first for 13 years. President N. M. Shvernik presented the Order of Lenin to the league at the final session of the congress. It had previously received the Order of Lenin during World War II and on the 30th anniversary of the founding of the league in 1948, and the Order of the Red Banner of Labour in 1928. (*See* also BOY SCOUTS; GIRL GUIDES; YOUNG MEN'S CHRISTIAN ASSOCIATION; YOUNG WOMEN'S CHRISTIAN ASSOCIATION.)

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YUGOSLAVIA. A federal people's republic of south-eastern Europe, bounded on the N. by Austria, on the N. and N.E. by Hungary and Rumania, on the E. by Bulgaria, on the S. by Greece and on the W. by Albania, the Adriatic sea and Italy. Area: (1940) 95,983 sq. mi.; (1947, including newly acquired territory of Julian march, Zara and the islands [2,843 sq. mi.]) 98,826 sq. mi. Pop. (1940 est.): 15,703,000. Federal republics (pop., March 15, 1948 census):

	Population	*Capital*	
Serbia (with the autonomous province of Vojvodina and the autonomous Albanian region of Kosovo-Metohija)	6,523,224	Belgrade	(388,246)
Croatia	3,749,039	Zagreb	(290,417)
Slovenia	1,389,084	Ljubljana	(120,944)
Bosnia and Hercegovina	2,561,961	Sarajevo	(118,158)
Crnagora (Montenegro)	376,573	Titograd	(12,206)
Macedonia	1,152,054	Skoplje	(91,557)
Total	15,751,935		

Other towns (pop., 1948 census): Subotica (112,551); Novi Sad (77,127); Rijeka formerly Fiume (72,130). Languages: Serbo-Croat, Slovene and Macedonian; Albanian, Hungarian and Italian are also spoken by the minorities. Religions (1931 census): Greek Orthodox 48·7%; Roman Catholic 37·5%; Moslem 11·2%. Chairman of the presidium of the people's assembly, Dr. Ivan Ribar; vice-chairmen, Moša Pijade (Serbia), Filip Lakuš (Croatia), Josip Rus (Slovenia), Djuro Pucar (Bosnia and Hercegovina), Marko Vujačić (Crnagora) and Dimitar Vlahov (Macedonia); prime minister, Marshal Josip Broz (Tito) (*q.v.*); deputy prime minister and minister of foreign affairs, Edvard Kardelj (*q.v.*).

History. During the year Yugoslav-Soviet relations continued to deteriorate. When the Paris conference of the Council of Foreign Ministers (*q.v.*) reached an agreement in June on the settlement with Austria which denied Yugoslavia her territorial claims in Carinthia, the Yugoslav government protested to the four powers. On June 22 the Soviet government rejected the Yugoslav protest in an angry note, which accused Yugoslavia of having conducted secret negotiations with Great Britain on the Austrian question in 1947, " behind the back " of her Soviet ally. A further Soviet note of Aug. 11 described in detail these alleged negotiations and concluded that Yugoslavia was behaving " not as an ally but as an enemy " of the U.S.S.R. It also alleged that some strong and secret ties bound the Yugoslav government to the " camp of the foreign capitalists." On Aug. 18 the Soviet government accused the Yugoslav government of maltreating Soviet subjects and stated that, if this continued, it would " have resort to other more effective means " to protect its subjects. The Yugoslav reply to this note drew a further reply from Moscow which included a long lecture on how Marxists ought to behave, illustrated with examples from the history of the Russian Bolshevik party. The Soviet press and radio in the following months hurled abuse at Tito and his colleagues, calling them apes, parrots, dwarfs, hyenas and by other similar epithets. Following the Rajk trial in Budapest (*see* HUNGARY), the Soviet government formally denounced on Sept. 28 its treaty of alliance with Yugoslavia (signed on April 11, 1945). Hungary and Poland denounced their treaties with Yugoslavia on Sept. 30, Rumania on Oct. 1, Bulgaria on Oct. 3, and Czechoslovakia on Oct. 4.

The economic boycott of Yugoslavia by the Cominform countries was tightened during the first six months of 1949. The Soviet-Yugoslav trade agreement of Dec. 1948 reduced the volume of mutual trade for 1949 to one-eighth of that of 1948. In June and July trade between Yugoslavia and Czechoslovakia, Poland and Hungary—the three Cominform countries whose exports were of greatest importance for Yugoslav economic planning—was brought to a standstill. In all three cases, the procedure was to demand impossible economic conditions for the continuance of trade and, when these were refused, to suspend all further deliveries. Thus the rupture was represented as resulting from economic difficulties but its true motive was in each case clearly political.

The Cominform boycott compelled the Yugoslav Communist leaders, with obvious reluctance, to seek greater trade, and to request credits, in the west. A short term trade

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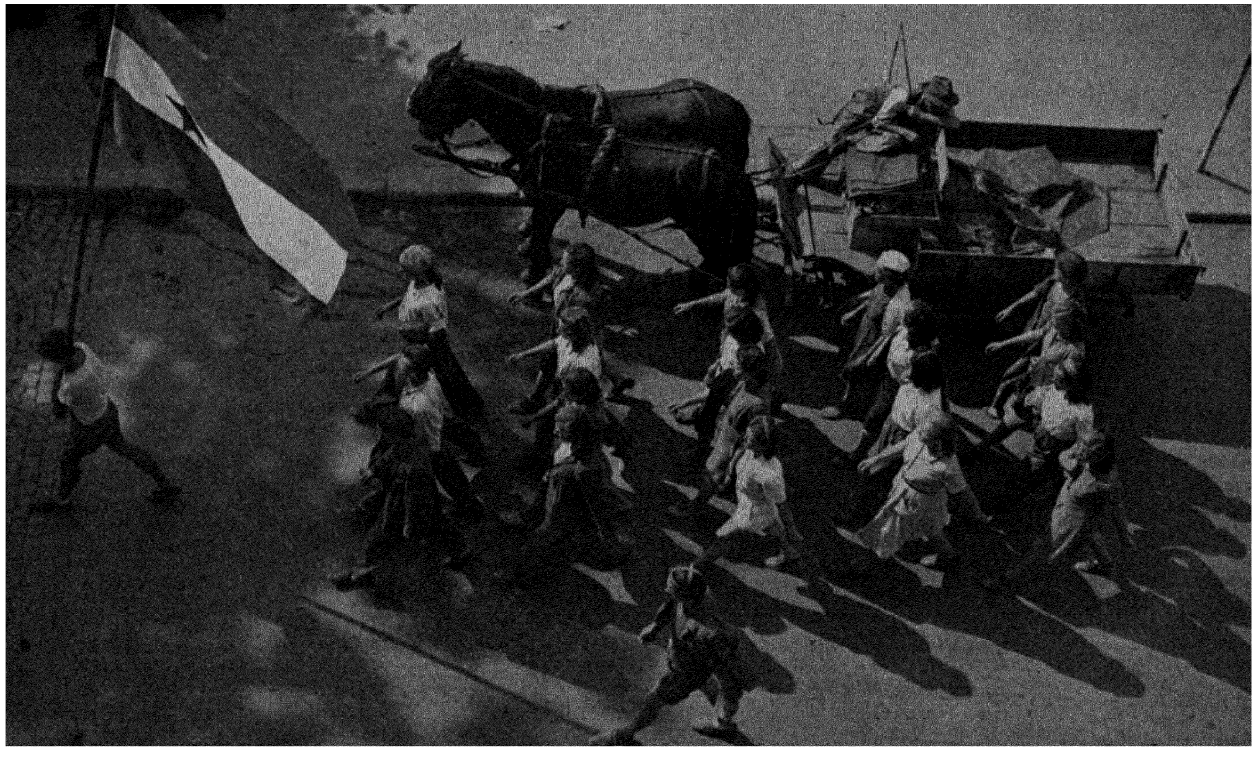
agreement with Great Britain was signed in Jan. 1949, providing for an exchange to the value of £15 million up to Sept. 30., after which a more far reaching agreement was to be made. On Aug. 4 an agreement was made with Italy, by which the value of mutual trade in 1949-50 was to be more than double that of the previous year. In August the United States government permitted the sale to Yugoslavia of a large steel plant and the International Monetary fund sold Yugoslavia $3 million in return for the equivalent sum of Yugoslav dinars—which in effect amounted to a dollar loan. On Sept. 8 the U.S. Export-Import bank gave a credit of $20 million, of which $12 million were to be spent on American equipment for the rehabilitation of Yugoslav mines.

Yugoslavia's economic situation remained critical during the year. Official statistics gave the usual optimistic percentage figures for the achievement of the Five-Year plan targets. But in fact the achievement was much smaller than the figures. Much of the construction consisted of factory buildings containing no equipment, and the new home-produced machinery displayed with such pride in exhibitions consisted of prototypes made by skilled craftsmen, which there was still no means of putting into mass production. More even than her " popular democratic " neighbours, and no less than the U.S.S.R. two decades before, Yugoslavia, lacking both machinery and a skilled labour force, had to rely for her plans on an army of directed unskilled labour. What could be produced by one skilled worker with a machine must be produced by five or ten pairs of strong bare hands.

The need for manpower in factories, public works and mines was the main motive behind the collectivization of agriculture which had made more rapid progress in Yugoslavia than in any other country of eastern Europe. Collective farms, with their managing committees controlled by the Communist party, provided a more efficient central control of the state bureaucracy over the peasant masses than had ever yet existed. During the first six months of 1949 the number of collective farms (" peasant labour co-operatives ") rose from 1,300 to 4,500. In August about 20% of Yugoslav agriculture was collectivized, and in the richest agricultural province—Vojvodina—the proportion was nearly 40%. Yugoslav collectivization was fiercely denounced by Cominform propaganda because it was not accompanied by a thorough " class war " against the *kulaks* in the villages. The reason for the comparatively mild treatment of the more prosperous peasants who, in contrast to the rule in Cominform countries, were allowed in Yugoslavia to join collective farms, was that Tito's government, faced with external threats and internal economic crisis, was understandably eager to minimize the discontent.

There was absolutely no political liberalization. The Serbian and Croatian peasant party leaders were still in prison. The wishes of the non-Communist masses were ignored as before. Anti-Communist opinions were crushed no less ruthlessly than Cominformist Communist opinions. Tito counted on the patriotism of his people to back him against the external threat even if they disliked his regime. In the short term he was probably right, but he succeeded at the cost of a low national morale which might later be a source of weakness.

The most important action in Yugoslavia's own foreign policy was the decision to close the frontier with Greece, announced in July. Official Yugoslav spokesmen insisted that this action was directed equally against the Greek rebels and the Greek " monarcho-fascist " government. In practice, it operated in favour of the government. Ideological factors prevented friendship between the Yugoslav and Greek governments. But at least the Greek government was doing no direct harm to Yugoslavia, whereas the leaders of the Greek rebels, after the dismissal of Markos Vafiades in Jan.



Voluntary workers marching to work in Belgrade. The photograph was taken in the autumn of 1949 in Balkan Street in the capital.

1949 (*See* GREECE), began to support the Bulgarian-sponsored agitation for a united Macedonia to be liberated from both Greece and Yugoslavia. The closure of the frontier put an end to Yugoslav help to the Greek rebels and greatly diminished the usefulness of Albania as a base for the rebels. Albania was now isolated from the outside world. Both her land neighbours, Greece and Yugoslavia, were her enemies; and the great powers of the Mediterranean had no reason to be well disposed to her. The negative rapprochement between Greece and Yugoslavia, resulting from the closure of the frontier, not only contributed to the defeat of the rebels by Greek national forces during the summer but provided the Soviet Union with a further motive for hatred of Yugoslavia. The only remaining Soviet vassal on the Adriatic, Albania, was linked with the Cominform world only by occasional Soviet, Rumanian or Polish ships which had to pass through the Turkish straits or through the Baltic and Gibraltar. The strategic importance of Macedonia in Soviet eyes increased, as it was a link not only from north to south—from central Europe to the Aegean—but also from west to east—from Adriatic to Black sea. (*See* MACEDONIAN PROBLEM.)

At the end of the year Yugoslavia's position was dangerous but not impossible. Tito and his colleagues were experts both in guerilla warfare and in police terror. It was unlikely that rebellion in Macedonia would hold great terrors for them. Nor had they much reason to fear the attack of their satellite neighbours. In October there was a serious frontier incident on the Hungarian border. Machine-gun fire—for which each side blamed the other—continued for some hours, but it did not appear that anyone was hurt. But despite a barrage of insults, and a violent protest by A. Y. Vyshinsky when Yugoslavia was elected to the U.N. Security council on Oct. 20, there was no sign that the U.S.S.R. planned invasion. The attitude of the western powers in the event of invasion was also uncertain. (H. S.-W.)

Education. (1947-48) Schools: elementary 12,052, pupils 1,616,002, teachers 23,889; secondary 942, pupils 310,185; technical 1,307, pupils 121,137; teachers' training colleges 53, students 16,145; universities 5, students (1948-49) 54,421. Illiteracy (1931): 45·2%.

Agriculture. Main crops ('000 metric tons): maize (1947) 4,000; wheat (1946) 1,803; barley (1946) 194; oats (1946) 154; rye (1946) 170; potatoes (1947) 800; sugar, raw value, (1948) 95; cotton, ginned, (1948) 3; hemp (1947) 34; flax (1947) 3; tobacco (1945) 13. Livestock ('000 head, Dec. 1946): cattle 2,493; sheep and goats 6,355; pigs 2,763; horses used in agriculture 613; chickens 16,000.

Industry. Industrial establishments (1939) 3,254. Coal ('000 metric tons, 1940) 421; lignite 6,888. Raw materials ('000 metric tons): copper ore (1947) 30; lead (1947) 50; bauxite (1944) 150; zinc ore (1947) 30.

Foreign Trade. Imports: (1947) 14,435 million dinars. Exports: (1947) 8,637 million dinars.

Transport and Communications. Roads (1940): 20,906 mi. Licensed motor vehicles (Dec. 1948): cars 10,600, commercial vehicles 4,200. Railways (1940): 4,319 mi. Shipping (July 1948): merchant vessels 103, total tonnage 202,615. Telephones (1948): subscribers 66,495. Wireless licences (1947) 220,256.

Finance and Banking. Budget (million dinars): (1949 est.) balanced at 161,953; (1950 est.) balanced at 173,746. Monetary unit: *dinar* with an official exchange rate of D.140 (201·50 before Sept. 18, 1949) to the pound and D.50 to the U.S. dollar.

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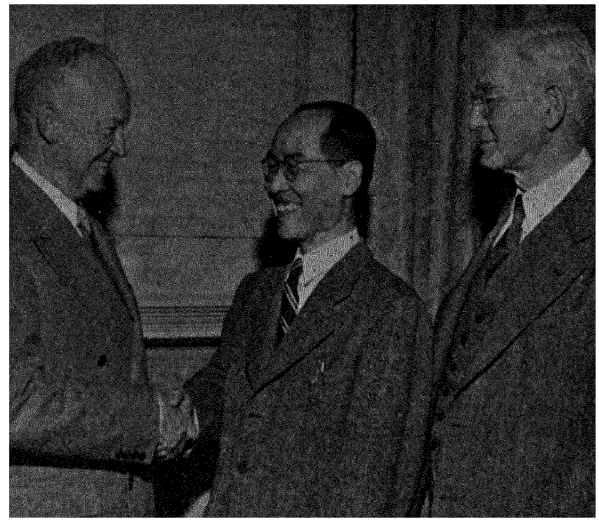
YUKAWA, HIDEKI, Japanese physicist (b. Tokyo, Jan. 23, 1907), was educated in Tokyo and at Kyoto university where his father was professor of geology. He graduated in 1929, and in 1932 became a lecturer at Kyoto. He was at Osaka university from 1933 until 1939 when he returned to Kyoto as professor of physics. During World War II he remained in Japan and for a time was concurrently a professor at Tokyo and at Kyoto. In 1948, at the invitation of J. Robert Oppenheimer, he went to the Institute for Advanced Study at Princeton, New Jersey, to work with a group of nuclear



Dr. Hideki Yukawa (centre) being congratulated by General Dwight D. Eisenhower, president of Columbia university, after being awarded the Nobel prize for physics. On right is George B. Pegram, vice-president of Columbia university.

physicists, and in July 1949 was appointed visiting professor of physics at Columbia university for the 1949-50 academic year. In 1935 he published a series of equations in which he forecast the existence of a fourth basic particle of matter, the meson (in addition to the proton, the electron, and the neutron). The Royal Swedish Academy of Science awarded Dr. Yukawa the 1949 Nobel prize for physics "for his prediction of the existence of the meson based upon his theory of nuclear forces." He received the prize in Stockholm on Dec. 10 and the subject of his Nobel lecture two days later was "The Meson Theory and its Developments."

ZAFRULLAH KHAN, SIR MOHAMMAD, Pakistani statesman (b. Sialkot, Punjab, Feb. 6, 1893), was educated in Sialkot, at the Government college, Lahore, and at King's college, London. He was called to the bar in 1914 and from 1919 to 1924 was a lecturer at the Law college, Lahore. He was a member of the Punjab Legislative Council, 1926-35, and from 1935 to 1941 served on the governor general's executive council in charge, successively, of the portfolios of commerce and railways, industries and labour, law and war supply. Until the creation of the dominion of Pakistan on Aug. 15, 1947, he was a judge of the Federal Court of India. On Dec. 27, 1947, he was sworn in as minister for foreign affairs and commonwealth relations in the newly formed Pakistani government. He was president of the All-India Moslem league, 1931-32, was leader of the Indian delegation to the League of Nations assembly, 1939, was agent general for India in Chungking, 1942, and led the Pakistani delegation to the general assembly of the United Nations, which on Sept. 30, 1947, admitted Pakistan to membership. He again led the Pakistani delegation at the U.N. general assembly in 1948 and attended the Commonwealth prime ministers' conferences in Oct. 1948 and April 1949. He was present at the conference on Indonesia held in Delhi, Jan. 1949. In 1949 he led the Pakistani delegation at the United Nations fourth general assembly. In October he made a brief visit to Ottawa.

ZAHARIADIS, NIKOLAOS, Greek politician (b. Izmit, Turkey, 1902). After studying in the U.S.S.R., 1920-23, he was sent to Piræus, Greece, where he was active as a Communist youth organizer. In 1929 he was a student in Moscow at the Comintern School for Eastern Studies.

He was appointed secretary general of the K.K.E. (Kommunistikon Komma Ellados, or Communist Party of Greece) in 1931. Three years later he joined the executive committee of the Comintern and in 1935 became secretary of the Balkan Communist Federation bureau. In 1936 he was elected to the Greek Chamber of Deputies, but soon afterwards was exiled by the government of Ioannis Metaxas to the island of Corfu. Transferred in 1940 to a prison in Athens, he was found there by the Germans and sent to Dachau concentration camp. On his release in May 1945 by the U.S. army, he returned to Athens and was re-confirmed as secretary general of the K.K.E. He took the leading part in organizing the 1946 Communist rebellion. On Jan. 1, 1947, he publicly admitted the existence of a "Democratic army" in the mountains and on July 12, 1947, he announced that a "free Democratic government inside Greece" was about to be formed. The composition of the "government" was announced on Dec. 24, 1947, with Markos Vafiades as prime minister and c. in c. On Feb. 4, 1949, however, Markos was relieved of his duties and sent to Moscow. Zahariadis set up a new Politburo of the K.K.E. and assumed the high command of the rebel army. (*See* also GREECE.)

ZANZIBAR: *see* BRITISH EAST AFRICA.

ZÁPOTOCKÝ, ANTONIN, Czech politician (b. Zákolany, Dec. 19, 1884), prime minister from June 14, 1948. (For his early career see *Britannica Book of the Year 1949*).

In Dec. 1948 and Jan. 1949 he led the Czechoslovak delegation at the Moscow conference that decided to form the Council of Mutual Economic Assistance. On June 22, 1949, he warned the Roman Catholic hierarchy that his government would not allow it to "violate" the freedom of the individual to fulfil his civic duties. Speaking in Prague on Nov. 7 he admitted that there were uranium deposits in Czechoslovakia and that the Czech people were proud to supply ore to the U.S.S.R. On Nov. 12 his first play entitled *New Heroes Will Arise* was produced at the Vinohrady theatre in Prague. At the trade union congress in Prague, on Dec. 11, he admitted that the introduction of Soviet Stakhanovite methods to speed up production had created tension in the factories.

ZEELAND, PAUL VAN, Belgian economist and statesman (b. Soignies, Belgium, Nov. 11, 1893), was educated at the universities of Louvain and Princeton. He joined the Belgian National bank in 1919 and was its vice governor in 1934, when King Leopold III (*q.v.*) appointed him minister without portfolio in the cabinet of Count Charles de Broqueville. On March 25, 1935, he formed a national government in which he assumed the portfolio of foreign affairs. During his administration King Leopold announced on Oct. 14, 1936, that Belgium was returning to the pre-1914 neutrality policy. He resigned on Oct. 25, 1937, and the following year was appointed professor of international economic science at the University of Louvain. After the German invasion of Belgium he left for the U.S.A. As president of the Belgian Commission for the Study of Post-War Problems (1942-44) he visited London many times. He returned to Brussels in 1944 and was appointed Belgian commissioner for reparations (Oct. 1944-Oct. 1945). In March 1945 he was elected a member of the Senate. He founded in Brussels the Independent League of European Co-operation which in 1947 joined the International Committee of the Movement for European Unity. On Aug. 10, 1949, he was appointed minister of foreign affairs and foreign trade in the cabinet presided over by Gaston Eyskens (*q.v.*). Six days later, in Paris, he succeeded Paul-Henri Spaak (*q.v.*) as chairman of the O.E.E.C. He stated at Brussels, on Nov. 13, that the United Nations had proved a greater failure than the League of Nations.

ZOOLOGICAL GARDENS. In spite of the difficulties and anxieties of a troubled and quarrelsome world progress in the rehabilitation and development of zoological gardens was, at least in Europe, maintained during 1949, and judging by the numbers of visitors, zoos were as popular as ever. In the British Isles the records of attendance were high, partly owing to the prolonged and brilliant summer. By the end of September nearly 2,225,000 visitors had entered the gardens at Regent's park and nearly 500,000 had, in spite of continued difficulties of transport, made their way to Whipsnade park which, for the first year in its somewhat chequered history, seemed likely to pay its way without recourse to the general exchequer of the Zoological society of London.

Both in London and at Whipsnade progress in re-stocking and expanding the collections was well maintained. The outstanding event of 1949 at the London zoo was the arrival —through the kindness of the Belgian government—of a female okapi. She was a strong, healthy young animal. Thus for the first time the society possessed a pair of these interesting animals, believed to be the only pair in captivity, at any rate out of Africa. As they were on excellent terms with one another there was a reasonable hope that in course of time an okapi might be born in London. Another interesting arrival was a party of seven young giraffes, six reticulated, the seventh Baringo, which were exhibited with the earlier group of young ones acquired in 1947. It was intended that four of the youngest should later go to the Dublin zoo, which was showing itself in many directions to be as progressive as ever. A number of greater birds of paradise were also acquired and thus a start was made in the filling of a serious gap caused through the loss during World War II of what had been a strikingly varied collection. There were many other interesting arrivals and the London zoo could undoubtedly claim to display the most representative collection of animals in any zoo. In particular, it owned the most remarkable collection of monkeys, diurnal birds of prey, owls and small mammals ever exhibited. The aquarium was unequalled as regards both the range of its collection and its technique of display.

At Whipsnade also progress was well maintained though there were no spectacular developments. It was a good breeding year, especially among birds. Two young Manchurian cranes did well, about a dozen red-breasted geese were hatched in an incubator and grew to maturity and there was a late-hatched brood of the Kenya crested guineafowl believed to be the first to be hatched away from their native country. A serious loss was sustained through the death of two cows of the society's small herd of the white-tailed gnu or black wildebeest, representatives of a species dangerously near extinction. An exhibit which attracted much interest was a pair of hippopotami in a large open pond which were guests from Hanover zoo. Other animals from Hanover and Hamburg had also enjoyed the hospitality of Whipsnade, notably a young elephant, various cranes and some flamingoes, but owing to improved conditions in Germany they were returned to their respective zoos. Indeed, throughout Germany, rehabilitation of the numerous zoos went steadily forward though financial conditions made re-stocking very difficult.

There was nothing of outstanding interest to report about other non-commercial zoos of the British Isles. The old-established zoos of Dublin, Edinburgh and Bristol maintained their high standards and the Glasgow zoo made good progress.

As regards Europe, reference has already been made to the steady though difficult rehabilitation of zoos in Germany.

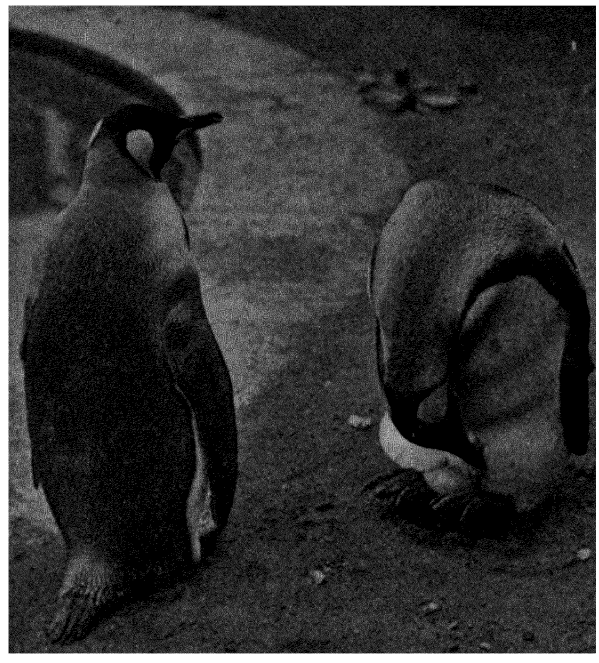
Elsewhere progress was made in restoration. The Antwerp zoo was fully restored and well stocked, that at Copenhagen maintained its usual high standard and the Rotterdam zoo, which had only just been completed before war broke out, was now completely stocked and was a thoroughly up to date model zoo.

The various zoos of India, Burma and elsewhere in Asia were up to normal standards. In Indonesia the Sourabaya and other zoos were endeavouring to re-stock, but local conditions outside the towns were such that the collection of native animals in the islands was attended by almost insurmountable difficulty. (H. G. M.)

ZOOLOGY. During 1949 there were no very outstanding events in this field, although a certain number of international meetings were held, mainly in the form of symposia on special topics. One of the more successful of these was a symposium on "Physiological Mechanisms in Animal Behaviour," arranged jointly by the Society for Experimental Biology and the Association for the Study of Animal Behaviour and held at Cambridge, July 8 to 22. The range of topics and the large attendance indicated the wider interest taken in this branch of the subject. The 14th Cold Spring Harbour Symposium on Quantitative Biology, June 8 to 16, was devoted to "Amino Acids and Proteins," with special reference to the composition of cell nuclei and chromosomes. A discussion on "Induction in Embryonic Development" was arranged by the International Union of Biological Sciences and took place at Berne, Switzerland, during the summer. The United Nations conference on the "Conservation and Utilization of Natural Resources" was held at Lake Success, New York, Aug. 17 to Sept. 6. Other gatherings of interest to zoologists included a symposium on "Science Théorique sur les Problèmes de l'Evolution," in Paris, Oct. 10 to 15; and the 10th international Ornithological congress, at Washington, D.C., Dec. 16 to 18. The proceedings of the 8th International Congress of Genetics held in Stockholm during 1948 were issued in 1949 as a supplementary volume of *Hereditas*. The wide range of papers gave some idea of the rapid advances that were being made in this branch of zoology.

Publication and Research. The number of publications listed in vol. 83 of the *Zoological Record* (dealing mainly with the literature of 1946), published early in 1949, remained in the neighbourhood of 12,000. Among the more important general publications were two further volumes of the *Traité de Zoologie* prepared in Paris under the direction of Professor Pierre-Paul Grassé of the Sorbonne. Volume 6 dealt with the Arthropoda, exclusive of Crustacea, Myriapoda and Insecta, and was mainly concerned with Spiders and Scorpions. In the general account of the Arthropoda, by A. Vandel, it was noted that about 80% of the known species of animals belong to this group, and the complicated social organization of certain of the insects appeared to indicate a high development of intelligence or mentality. Volume 9 was the first of three volumes to be devoted to insects and contained a most interesting account of termites.

Among books on special groups, Karl Lang's *Monographie der Harpacticiden* (Stockholm, 1948), comprising 1,682 pages, 607 figures and 378 charts, was by far the most detailed account of the group. A third volume of J. R. Ellerman's *The Families and Genera of Living Rodents* (London, Brit. Mus.) was issued during the year; it contained additions and corrections to the two previous volumes and also a list of named forms (1758-1936) by R. W. Hayman and G. W. C. Holt. The general reader had a wide range of books on natural history from which to choose, but the New Naturalist series included a number of books of special interest to British zoologists. *The Sea Shore*, by C. M. Yonge, was one of the most important recent additions to this series.



A male king penguin sitting on an egg at the London zoo. The egg was hatched on Oct. 21, 1949—the first king penguin egg hatched at the London zoo—but two days later the chick was found dead.

The vexed question of torpidity in birds, dating from classical times, had always been regarded with some scepticism by most zoologists, but an undoubted case of hibernation in the American Poor-will, *Phalænoptilus nuttallii*, was recorded by E. C. Jaeger (*Condor*, vol. 51, p. 105). The bird hibernates in clefts in rocky cliffs of the Colorado desert, California, and was observed to remain in holes for as long as 85 days. As in the case of hibernating mammals, it also showed a marked drop in body temperature, down to 18°C.

In more academic branches of the subject a new field was opened by the use of radio-active tracer elements, and a symposium on the subject was published by the University of Wisconsin. A good general account was also given by G. C. de Hevesy, *Radio-Active Indicators* (New York), which dealt with the use of isotopes in biology and medicine. Other publications on the same subject included *Advances in Biology and Medical Physics*, edited by J. H. Lawrence and J. G. Hamilton (New York).

"The study of a generalized marsupial (*Dasycercus cristicauda*, Krefft)," by F. Wood Jones (*Trans. Zool. Soc. Lond.*, vol. 26, part 5) was an important contribution to our knowledge of this rare animal. One of the surprising features of this carnivorous marsupial was the great variation in the size of the adults ranging in length from 125 to 220 mm. There were also similar variations in the dimensions of the feet, tail, ears and other parts of the body.

The hæmoglobins of Ascaris and other nematodes were studied by H. E. Davenport, (*Proc. Roy. Soc.*, vol. 136, pp. 255-290). Two distinct kinds are found in the perienteric fluid and body-wall respectively. When kept under anærobic conditions the latter becomes de-oxygenated but no change could be found in the perienteric fluid hæmoglobin. Further studies by H. Munro Fox *et al.* on the hæmoglobin content of Daphnia (*Proc. Roy. Soc.*, vol. 136, p. 388) showed that this animal synthesizes blood hæmoglobin under conditions of oxygen deficit. (*See* also ENDOCRINOLOGY; ENTOMOLOGY; GENETICS; MARINE BIOLOGY; PALÆONTOLOGY; PHYSIOLOGY; ZOOLOGICAL GARDENS.) (E. HIN.)

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* Died in 1949; *see* OBITUARIES